# Caddis-flies (Insecta: Trichoptera) of the World Heritage Area in Tasmania—species composition and distribution

A. Neboiss<sup>1</sup>, J. Jackson<sup>2</sup> and K. Walker<sup>1</sup>

<sup>1</sup>Department of Entomology, Museum of Victoria, 71 Victoria Crescent, Abbotsford, Victoria 3067, Australia <sup>2</sup>Department of Zoology, University of Tasmania, Hobart, Tasmania 7001, Australia

Abstract. Neboiss, A., Jackson, J. and Walker, K. 1989. Caddis-flies (Insecta: Trichoptera) of the World Heritage Area in Tasmania - species composition and distribution. *Occasional Papers from the Museum of Victoria* 4: 1-41.

Published data on Trichoptera (caddis-flies) from the Tasmanian World Heritage Area, supplemented by information obtained mainly from material collected during an expedition to the Lower Gordon river area in 1977 and Wildlife Research Expeditions to the South-west in 1988, are tabulated. Distributions are discussed and found that 131 species (79%) of the 166 Tasmanian species are within the World Heritage Area.

### Introduction

The Trichoptera are an ecologically important group, with greater diversity in various habitats than any other insect order with wholly aquatic larvae (Mackay and Wiggins, 1979). They inhabit almost every type of freshwater habitat. The larvae are involved in all the trophic processes of a freshwater ecosystem and are an important food item for various fish species (Jackson, 1978; Hortle and White, 1980; Otto and Svensson, 1980) and other aquatic animals, including the platypus (Faragher et al., 1979).

One hundred and sixty six (166) species in 21 families have so far been recorded in Tasmania (Neboiss, 1986) and more than 70% are endemic (Neboiss, 1977). Some families (Kokiriidae, Tasimiidae, Helicophidae and Philorheithridae) have transantarctic distributions (Neboiss, 1986, Flint, 1979, Winterbourn 1980) so the Tasmanian fauna, particularly that of the South-west, is biogeographically important. Several families (Chathamiidae, Oeconesidae, Calocidae and Conoesucidae) show close affinities with the New Zealand fauna, and one (Oeconesidae) is not found on the Australian mainland. Therefore, the distribution of Tasmanian Trichoptera deserves extensive investigation before a full understanding of their biogeography is reached.

The Tasmanian World Heritage Area (WHA) contains both extensive and diverse freshwater habitats which still remain largely unexplored. Any survey in this area will undoubtably extend the range of known species, provide much needed information on their biology, and very likely will reveal undescribed species.

Extensive collecting was carried out in Tasmania between 1965 and 1975 (Neboiss, 1977). Many of these localities are now within the boundaries of WHA and provide valuable baseline data. Further investigations have been conducted by the Zoology Department of the University of Tasmania, the Inland Fisheries Commission, and the Australian and New Zealand Scientific Exploration Society (ANZSES). Results from expeditions to New River Lagoon, 1978–1979 have been described by McEvey (1980) and to the Franklin River area, Jan–Feb 1983, published by Malcolm (1987). The results from a 1977 expedition to the lower Gordon–Olga river area (A. Neboiss participating) are extensive and particularly interesting as they link the northern and southern sections of the WHA. Data extracted from all these sources have

been incorporated into this report with new material from WHA research expeditions in Jan-Mar 1988.

A taxonomic study of the family Conoesucidae undertaken by one of us (J. Jackson) is in progress and laboratory rearing of larvae to adults has already enabled specific identification of some larvae of Conoesucidae, Helicophidae and Calocidae. The Conoesucidae are the second most diverse of the case-making families in Australia and larvae are abundant in most lotic habitats in Tasmania which is the centre of radiation for the family. Of the 21 Australian species, 17 occur in Tasmania and 14 are endemic. In comparison, only 16 species are known from New Zealand (Neboiss, 1986). The family separation and relationships are incompletely understood and only detailed information on their immature stages will provide the solution (Ross, 1967; Neboiss, 1977; Hynes, 1984).

The immediate and future use of this report will be to provide a baseline study for any future environmental impact study on either terrestial or aquatic disturbances. Both will reflect a change in the caddis-fly species composition and diversity of the streams surrounding the disturbed area.

### Area

The WHA has been divided into six investigation areas (Map 1). Information from a section of the Huon River and its tributaries between Blakes Opening and Arve River junction just outside the WHA, has been appended as Investigation Area 7 because it includes a large, deep water river system.

Results from 61 collecting sites are presented (Maps 2–8). Sites where only a few specimens were collected are not listed separately but combined with the nearest major site. These are indicated on maps with smaller numerals e.g., To 8.

Investigation area 1: Waldheim and Lake Dove area (Map 2). The vicinity of Waldheim at the extreme northern end of WHA has been visited by many entomologists over a long time, but little has been published on Trichoptera. Specimens collected by Tonnoir in 1922–1923 found their way to the Brussels Museum and formed the basis of two publications by Jacquemart (1965a, b). Publications by Mosely and Kimmins (1953) and Neboiss (1962, 1977) added many other species.

This investigation area includes 6 sites, all within 2 km of Waldheim, and have been amalgamated into one site (Site 1 A–F). Most of the Park, from Cradle Mt to Lake St Clair, remains unexplored for aquatic insects (Trichoptera).

Investigation area 2: Seven main collecting sites (2-8) located either at the southern end of Lake St Clair or along the Lyell Highway between the eastern and western boundaries of the WHA (Map 3). Almost all collecting sites in this area are associated with comparatively large, fast flowing rivers. Two were lacustrine (Sites 3, 5).

Investigation area 3: Six collecting sites (9–14) restricted to a small mountainous area in Frenchmans Cap National Park (Map 4). They are at an approximate altitude of 1000 m and situated in the vicinity of small mountain lakes with small in-or outflowing streams. Ms J. Jackson was the first to collect (January 1988) Trichoptera in this area.

Investigation area 4: 13 collecting sites (15-27) on the Lower Gordon River below Gordon Dam, and its tributaries (Map 5). All information is based on material collected by Neboiss and a team from the University of Tasmania Department of Zoology in January, 1977. A variety of habitats was sampled with mercury vapour light traps. At this time, the main water flow of Gordon River was already stopped by the HEC dam at Strathgordon. The main source of water was the inflow from the tributaries.

Investigation area 5: 16 sites (Map 6), of which 12 are on the shores of the present Lake Pedder impoundment. One (Site 32) was on the original Lake Pedder before flooding in 1972, and two are on the banks of inflowing streams – Sandfly Creek (Site 30) and Condominium Creek (Site 31). Site 29 is on Wedge River which drains into Lake Gordon. Some of the sites were investigated during 1965–1966 by Neboiss before disturbance of the surrounding environment. The specimens from the sites on shores of Lake Pedder impoundment during 1988 were collected by Jackson, Chilcott and Fulton.

Investigation area 6: 11 scattered, southern sites (44–54) (Maps 7 and 8). Although mountain ranges occupy considerable sections of the area, very little collecting of Trichoptera has been possible at higher altitudes and in mountain lakes because of the difficulty in access with light trap equipment. These places, however, are the most promising for unusual and interesting species, which could hold information on some relic fauna, and taxa with Transantarctic relationships.

Investigation area 7: Seven sites (55–61) in part of the Huon River and its tributaries eastward from the WHA boundary to the Arve River junction (Map 8). Extensive collecting with light traps was carried out between 1967 and 1972 by Riek and Neboiss to which is added recent collection data by Chilcott. This provides good baseline data for the period before the destruction of forests by the woodchip industry.

### Methods

Adults were collected directly into 80% ethanol. Almost all the material was placed in small glass vials, preserved and permanently stored in ethanol. Only a small number of specimens have been dry mounted.

Larvae and pupae were collected by hand picking them from substrate rocks, submerged wood, aquatic plants or sieving of loose substrate. Samples of moss, plants and leaf litter were taken for later sorting in the laboratory. Specimens required for rearing to adults were transported alive, others were preserved in Kahle's fluid (Wiggins, 1977) which is superior to alcohol for fixing specimens extracted from water.

Larvae and pupae to be reared, were placed in small plastic containers with few centimetres of water, aerated with compressed air through a pipette and kept at 15°C. Some sand, leaves and/or algae were added to provide food and case material; transparent lids prevented escape of emerged adults.

For adult collecting during the day and in the early hours of evening the customary hand net was used. Riparian vegetation was swept in the vicinity and along the banks of streams as well as low scrub on buttongrass plains and hillsides with water seepage areas. During late evenings and nights, specimens were attracted by mercury vapour light and captured in traps or on a white sheet.

A portable 240V generator with 300W to 1000W output, pending on availability, was used as the power unit for MV 150-500 W blended or clear glass lamps. It was noted that at higher altitudes specimens were active and attracted to light at lower temperature than at lowlands.

## Results

The caddis-fly material accumulated and examined over a period of twenty years, from the area which is now within the boundaries of the WHA, numbers well over 80,000 specimens. Of these, nearly 5,000 were collected during the 1988 Wildlife Research Expeditions.

Of the 166 Trichoptera species recorded from Tasmania (Neboiss, 1986), 131 species or nearly 79% of the Tasmanian fauna, occur within the WHA. Another 20 undescribed species have now been recognized, and these will be described in a future publication. It is not possible to find a higher concentration of caddis-fly species in an area of comparable size elsewhere in Australia. Several families, widely distributed in the eastern part of the State, are almost or entirely absent from the WHA. These include Tasimiidae, Helicopsychidae, Helicophidae (genus Helicopha) and Calamoceratidae.

Highest species diversity is found in the Lower Gordon River area (Area 4) with 90 recorded species (Table 1). The second highest is the Lake Pedder impoundment area (Area 5) with 76 recorded species. Here, however, the diversity is not even throughout. It is much higher in the stream samples – Sandfly creek (Site 30), Condominium creek (Site 31) and Wedge river (Site 29), whereas the lake samples show considerably lower species diversity. The light trap sample from Frankland shore (Site 38) registered only 23 species compared with 40 species from Sandfly creek.

The third highest species diversity was recorded from Investigation Area 6 with 72 species. The sites are widely separated and in a variety of habitats thus providing a good cross-section of most families.

Six species - Apsilochorema obliquum (Mosely), Ethochorema nesydrion (Neboiss), Plectrocnemia altera Neboiss, Alloecella longispina, Jacquemart, Atriplectides dubius Mosely and Triplectides bilobus Neboiss have been recorded from all Areas. A further 17 species are known from six of the seven Investigation Areas. In contrast, species known from a single locality and by only a few specimens are, Taskiria mccubbini Neboiss, Taskiropsyche lacustris Neboiss, Tascuna ignota Neboiss, Westriplectes pedderensis Neboiss, or from a single specimen - Nanoplectrus truchanasi Neboiss, Archaeophylax vernalis Neboiss, Hydrobiosella orba Neboiss and Costora krene Neboiss. Several little known and zoogeographically interesting species - Archaeophylax vernalis, Costora krene, Hydrobiosella orba, Tasmanoplegas spilota Neboiss, Tascuna ignota and Westriplectes pedderensis were captured during the 1977-1988 research expeditions, so expanding knowledge of their distributions, habitat preferences and biology. Other species recorded for the first time from the WHA are Costora delora Mosely, Conoesucus fromus Mosely and Aphilorheithrus luteolus Neboiss. Alloecella grisea Banks and Conoesucus digitiferus Jacquemart were found to be widespread.

Highest numbers of species from a single nights collecting are from: Dove River near the outflow from Dove Lake (Site 1D) 33 species; Sir John Falls, Cataract Creek (Site 16) 30 species; Franklin River – Roaring Creek junction (Site 17) 44 species; Gordon River above First Split (Site 22) 40 species; Olga River 19 km above Gordon River junction (Site 26) 44 species; Sandfly Creek (Site 30) 40 species; Old River and Collins River junction (Site 46) 36 species and Huon – Picton River junction (Site 59) 37 species.

The sequence of species in the presented tables is not alphabetic but rather is in accordance with the currently accepted systematic arrangement. All species known from Tasmania are listed to highlight gaps in the fauna of the WHA.

### Discussion

The aquatic insect fauna in general, and caddis-flies in particular, of the Tasmanian World Heritage Area make an important contribution to the study of the Australian insect fauna

because of its unique geographic situation. The combination of streams, lakes and sedgelands, commonly referred to as button-grass plains, is not found elsewhere in Australia. The presence and survival of species in these habitats depend on seasonally fluctuating rainfall, water levels and temperatures. Most of Tasmania's highest rainfall areas, with falls exceeding 2500 mm p.a., occur within this area. Changes in surface vegetation in catchment areas is reflected in stream character by increasing silt deposition, water temperature, and disrupting water level fluctuations. Aquatic insect ecology, species diversity and composition are consequentially affected. (Blyth et al., 1984).

Caddis-fly distributions, and abundance are only now gradually being investigated and understood. Very little economic value has been attached to the caddis-fly fauna until recently when their potential as pollution level indicators (Resh and Unzicker, 1975) and their trophic value was realized (Hellawell, 1986). Caddis-flies constitute a significant portion of the food chain in freshwater ecosystems. The species distribution throughout the environment is not uniform and their tolerance to environmental conditions determines their value as indicator species. Common and readily identifable taxa are the most useful.

Tasmanian caddis-fly fauna provide strong evidence in support of transantarctic relationships. The families Tasimiidae, Kokiriidae, Helicophidae and Philorheithridae (Wiggins, 1984) and the Triplectidinae genus *Notalina* (Holzenthal, 1986) having counterparts in both continents. Tasmania, as the most southern extention of the Australian continent, and the unique climatical conditions, has retained many relic taxa. Two particularly interesting species belonging to the transantarctic family Kokiriidae were found at the original Lake Pedder. Both species *Taskiria mccubbini* and *Taskiropsyche lacustris* have not been collected after the flooding of the lake in 1972, and as both were associated with the specific lacustrine habitat, may have become extinct when the water level rose. Their life histories remain unknown. Continued taxonomic and ecological studies will undoubtedly provide information on evolutionary processes.

# Acknowledgements

We are grateful to Department of Lands, Parks and Wildlife, Tasmania for giving us the opportunity to take part in the 1988 Wildlife Research Expeditions. We are particularly grateful to Dr Steven Smith, coordinator of the expedition programmes; Drs Michael Pemberton and Peter McQuillan, Department of Agriculture, Tasmania and Drs Wayne Fulton and Stuart Chilcott, Inland Fisheries Commission, for their enthusiasm, help and cooperation. Identifications of Hydroptilidae were done by Dr Alice Wells, Zoology Department, University of Adelaide. Her assistance is greatly appreciated.

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# Collecting site register

(Note: The Map Grid Reference refers to the 1:100,000 map series with the first number (eg. 8014) indicating the map number and the second number (119897) the grid reference.)

Site No. 1 Investigation Area 1 Various collectors 1965–1976 Waldheim, Cradle Mt, Dove River, Lake Lilla. Map Grid Reference 8014 119897 41°38′S 145°56′E Combined localities. Sites 1 A-F. Refer to Map 2.

Site No. 2 Investigation Area 2 Various collectors 1965–1976 Derwent River Bridge. Map Grid Reference 8113 346364 42°07′S 146°12′E River section 0.5 km below Lake St Clair dam.

Site No. 3 Investigation Area 2 Various collectors 1965–1976 Lake St Clair (south end). Map Grid Reference 8113 313372 42°07′S 146°09′E South end and Hugel River inflow. (8113 312376).

Site No. 4 Investigation Area 2 J. Jackson 22 Feb 1988 Navarre River. Map Grid Reference 8113 302293 42°11′S 146°09′E.

Site No. 5 Investigation Area 2 J. Jackson 22 Feb 1988 Lake Dixon. Map Grid Reference 8113 261321 42°10′S 146°07′E Upper Reaches of Franklin River.

Site No. 6 Investigation Area 2 A. Neboiss 1972 Arrowsmith Creek. Map Grid Reference 8113 251262 42°13′S 146°03′E.

Site No. 7 Investigation Area 2 Various collectors 1965–1988 Franklin River. Map Grid Reference 8113 190257 42°13′S 146°01′E.

Site No. 8 Investigation Area 2 A. Neboiss and J. Jackson. 1965–1988 Collingwood River. Map Grid Reference 8013 113314 42°10′S 145°55′E Includes specimens from Cardigan River (8013 034354) coll. J. Jackson.

Site No. 9 Investigation Area 3 J. Jackson 29 Jan 1988 Lake Tahune, Frenchmans Cap National Park. Map Grid Reference

8013 038198 42°17'S 145°51'E.

Site No. 10 Investigation Area 3 J. Jackson 29 Jan 1988 Artichoke Valley, Frenchmans Cap National Park. Map Grid Reference 8013 048196 42°17′S 145°51′E.

Site No. 11 Investigation Area 3 J. Jackson 29 Jan 1988 Lake Gwendolen, Frenchmans Cap National Park. Map Grid Reference 8013 028203 42°17′S 145°51′E.

Site No. 12 Investigation Area 3 J. Jackson 29 Jan 1988 Lake Whitham, Frenchmans Cap National Park. Map Grid Reference 8013 071163 42°17′S 145°51′E.

Site No. 13 Investigation Area 3 J. Jackson 29 Jan 1988 Lake Nancy, Frenchmans Cap National Park. Map Grid Reference 8013 033207 42°17′S 145°51′E.

Site No. 14 Investigation Area 3 J. Jackson 29 Jan 1988 Lake Vera, Frenchmans Cap National Park. Map Grid Reference 8013 079194 42°17′S 145°51′E.

Site No. 15 Investigation Area 4 A. Neboiss and D. Coleman 9 Jan 1977 Gordon River, 8 km below Butler Is. Map Grid Reference 8012 913928 42°30′S 145°40′E Unnamed lake on east bank.

Site No. 16 Investigation Area 4 A. Neboiss, D. Coleman and P. Allbrook. 9 Jan 1977 Sir John Falls, Cataract Creek, trib. of Gordon River. Map Grid Reference 8012 925858 42°34′S 145°41′E.

Site No. 17 Investigation Area 4 A. Neboiss, D. Coleman and P. Allbrook 8 Jan 1977 Franklin River, Roaring Creek junction, 1 km above Gordon River. Map Grid Reference 8012 965845 42°35′S 145°45′E. Includes ANZSES 1983 expedition material 8–22 Jan 1983.

Site No. 18 Investigation Area 4 A. Neboiss 13 Jan 1977 Gordon River, 0.5 km above Sprent River junction. Map Grid Reference 8012 975797 42°38'S 145°45'E.

Site No. 19 Investigation Area 4 A. Neboiss 7-15 Jan 1977 Gordon River, Smith River junction area. Map Grid Reference 8012 017735 42°41′S 145°48′E Includes specimens from Harrison Creek junction.

Site No. 20 Investigation Area 4 A. Neboiss, R. Swain, D. Coleman and P. Allbrook 10 Jan 1977 Maxwell-Denison River junction. Map Grid Reference 8012 073727 42°41'S 145°52'E.

Site No. 21 Investigation Area 4 D. Coleman and P. Allbrook 11 Jan 1977 Gordon River at Denison River junction. Map Grid Reference 8012 044697 42°44'S 145°50'E.

Site No. 22 Investigation Area 4 A. Neboiss, R. Swain, D. Coleman and P. Allbrook 11 Jan 1977 Gordon River, 0.5 km above first split. Map Grid Reference 8012 064669 42°44'S 145°51'E.

Site No. 23 Investigation Area 4 A. Neboiss, R. Swain, D. Coleman and P. Allbrook 12 Jan 1977 Gordon River, 0.5 km below second split. Map Grid Reference 8012 073667 42°44′S 145°52′E.

Site No. 24 Investigation Area 4 A. Neboiss 12 Jan 1977 2 km below Serpentine River junction. Map Grid Reference 8012 134667 42°44′S 145°56′E.

Site No. 25 Investigation Area 4 A. Neboiss 13 Jan 1977 Olga River, 4 km above Gordon River junction. Map Grid Reference 8012 001692 42°43′S 145°47′E Collected by hand on buttongrass and river areas.

Site No. 26 Investigation Area 4 A. Neboiss and R. Swain 13 Jan 1977 Olga River, 19 km above Gordon River junction. Map Grid Reference 8012 040547 42°51′S 145°50′E Collected on buttongrass swamp area with MV-light.

Site No. 27 Investigation Area 4 D. Coleman and P. Allbrook 13 Jan. 1977 Olga River, 19 km above Gordon River junction. Map Grid Reference 8012 040547 42°51′S 145°50′E Collected by MV-light at riverside.

Site No. 28 Investigation Area 5 J. Sedlacek Jan 1977 Strathgordon, Creek at Teds Beach Map Grid Reference 8112 232625 42°46′S 146°03′E.

Site No. 29 Investigation Area 5 Various collectors 1965–1988 Wedge River at Gordon River Road. Map Grid Reference 8112 372544 42°52′S 146°14′E.

Site No. 30 Investigation Area 5 A. Neboiss, K. Walker and J. Jackson 9 Feb 1988 Sandfly Creek on Scotts Peak Dam Road. Map Grid Reference 8112 485493 42°54'S 146°22'E Includes several localities a few kms N and S of Sandfly Creek.

Site No. 31 Investigation Area 5 A. Neboiss, K. Walker and J. Jackson. 9 Feb 1988 Condominium Creek on Scotts Peak Dam

Road Map Grid Reference 8112 479434 42°58'S 146°22'E Includes a few specimens from Twin Creek (8112 483413), J. Jackson.

Site No. 32 Investigation Area 5 A. Neboiss 1965–1972 Lake Pedder Map Grid Reference 8112 343440 42°57′S 146°12′E Collections before 1972 flooding of Lake Pedder.

Site No. 33 Investigation Area 5 S. Chilcott and J. Jackson 29 Feb. 1988 Lake Pedder impoundment, Edgar Dam beach west side. Map Grid Reference 8111 465357 43°02′S 146°21′E.

Site No. 34 Investigation Area 5 S. Chilcott and J. Jackson 29 Feb 1988 Lake Pedder impoundment, near Edgar Dam beach boat ramp. Map Grid Reference 8111 427352 43°02′S 146°20′E.

Site No. 35 Investigation Area 5 S. Chilcott and J. Jackson 29 Feb 1988 Huon River below Scotts Peak Dam. Map Grid Reference 8111 427352 43°02'S 146°18'E.

Site No. 36 Investigation Area 5 S. Chilcott and J. Jackson 2 Mar 1988 Lake Pedder impoundment, Giblin Bay. Map Grid Reference 8111 358364 43°01'S 146°13'E.

Site No. 37 Investigation Area 5 S. Chilcott and J. Jackson 2 Mar 1988 Lake Pedder impoundment, Pebbly Creek south branch. Map Grid Reference 8112 352395 43°00'S 146°12'E.

Site No. 38 Investigation Area 5 S. Chilcott and J. Jackson 2 Mar 1988 Lake Pedder impoundment, Frankland shore. Map Grid Reference 8112 284422 42°58′S 146°08′E Camp site and other nearby localities.

Site No. 39 Investigation Area 5 S. Chilcott and J. Jackson 1 Mar 1988 Lake Pedder impoundment, Crumbledown shore, Timber Creek. Map Grid Reference 8112 272452 42°56′S 146°06′E.

Site No. 40 Investigation Area 5 S. Chilcott and J. Jackson 3 Mar 1988 Lake Pedder impoundment, Forest Creek draining Lake Ampulla Map Grid Reference 8112 222493 42°54'S 146°03'E.

Site No. 41 Investigation Area 5 S. Chilcott and J. Jackson 3 March 1988 Lake Pedder impoundment, Helder Inlet Map Grid Reference 8112 298533 42°52′S 146°08′E.

Site No. 42 Investigation Area 5 S. Chilcott and J. Jackson 3 March 1988 Lake Pedder impoundment, Bonnet Bay Map Grid Reference 8112 301490 42°55'S 146°09'E.

Site No. 43 Investigation Area 5 S. Chilcott and J. Jackson 2 March 1988 Lake Pedder impoundment, Maria Creek. Map Grid Reference 8112 420503 42°54′S 146°17′E.

Site No. 44 Investigation Area 6 A. Neboiss 1965–1966 West Arthur Plains, Junction Creek. Map Grid Reference 8111 408271 43°06'S 146°16'E.

Site No. 45 Investigation Area 6 A. Neboiss 1966 Cracroft River Crossing. Map Grid Reference 8111 574221 43°09'S 146°29'E.

Site No. 46 Investigation Area 6 A. Neboiss, K.Walker and J. Jackson 10 Feb 1988 Old River and Collins River junction. Map Grid Reference 8111 460092 43°16'S 146°20'E.

Site No. 47 Investigation Area 6 J. Jackson 12-15 Jan 1988 Mulcahy Bay, Alex Rivulet. Map Grid Reference 8011 971253 43°07'S 145°44'E Includes several nearby sites.

Site No. 48 Investigation Area 6 A. Neboiss and K. Walker 12–13 Feb. 1988 Melaleuca Creek, Melaleuca Map Grid Reference 8111 311919 43°25'S 146°09'E.

Site No. 49 Investigation Area 6 S. Chilcott et al. 10 Feb 1988 Ray River. Map Grid Reference 8111 405895 43°27'S 146°16'E.

Site No. 50 Investigation Area 6 S. McEvey Dec 1978–Jan 1979 Louisa Creek. Map Grid Reference 8111 473854 43°29'S 146°21'E ANZSES New River Expedition.

Site No. 51 Investigation Area 6 S. McEvey and J. Jackson. Dec 1978/Feb 1988 New River Lagoon, Limestone and Urquart Creeks. Map Grid Reference 8211 658838 43°30'S 146°35'E ANZSES New River expedition—Cavers camp.

Site No. 52 Investigation Area 6 A. Neboiss and K. Walker 16 Feb 1988 Pigsty Ponds area, d'Entrecasteaux River source. Map Grid Reference 8211 782844 43°30'S 146°44'E.

Site No. 53 Investigation Area 6 A. Neboiss and K. Walker 16 Feb 1988 Maxwell Ridge, Reservoir Lakes, Picton River source. Map Grid Reference 8211 781853 43°29'S 146°44'E.

Site No. 54 Investigation Area 6 A. Neboiss and K. Walker 17 Feb 1988 d'Entrecasteaux River at South Cape Road bridge. Map Grid Reference 8210 898827 43°31'S 146°52'E.

Site No. 55 Investigation Area 7 A. Neboiss 1966 Huon River

at Blakes opening. Map Grid Reference 8211 690279 43°06'S 146°37'E.

Site No. 56 Investigation Area 7 S. Chilcott 9 Mar 1988 Tomalah Creek. Map Grid Reference 8211 729292 43°06'S 146°40'E.

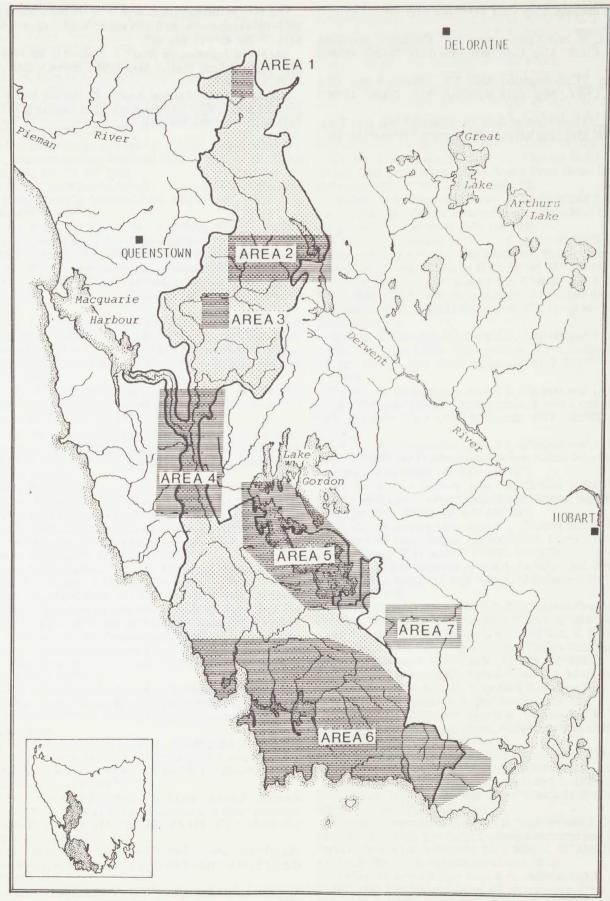
Site No. 57 Investigation Area 7 S. Chilcott 9 Mar 1988 Kroanna Creek. Map Grid Reference 8211 734290 43°06'S 146°43'E.

Site No. 58 Investigation Area 7 S. Chilcott 9 Mar 1988 Truggara Creek. Map Grid Reference 8211 756287 43°06'S 146°43'E.

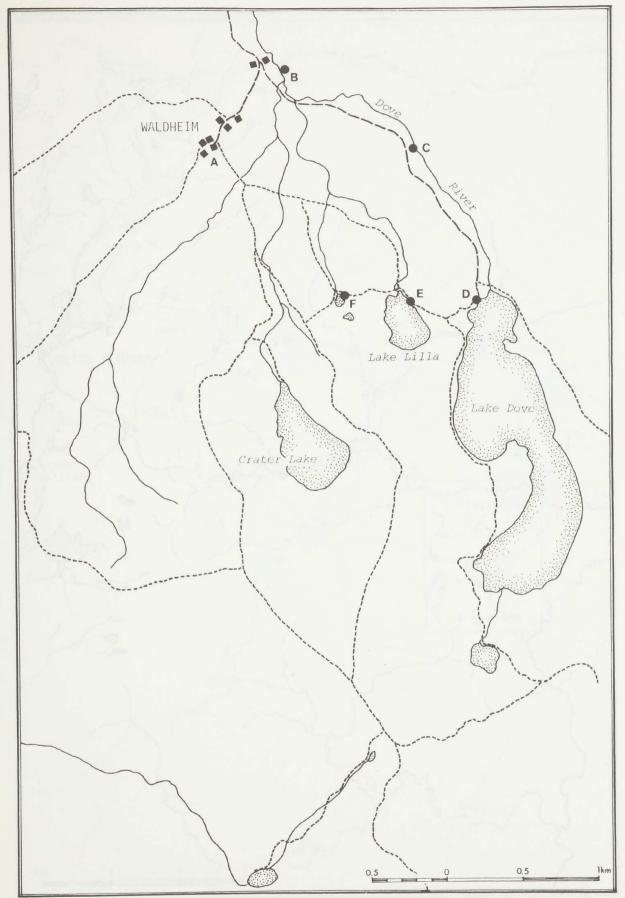
Site No. 59 Investigation Area 7 A. Neboiss and E. Riek 1965–1974 Huon – Picton Rivers junction. Map Grid Reference 8211 776284 43°06'S 146°44'E.

Site No. 60 Investigation Area 7 S. Chilcott 14 Jan 1988 Huon River near Tahune Bridge. Map Grid Reference 8211 778285 43°06'S 146°44'E.

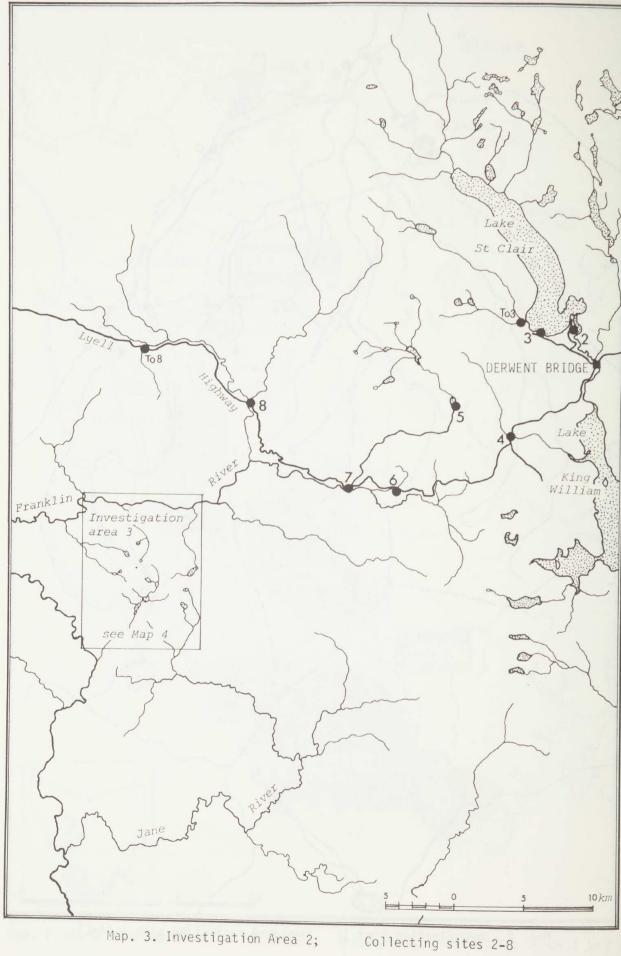
Site No. 61 Investigation Area 7 A. Neboiss and E. Riek 1965–1974 Arve River on Arve River Road. Map Grid Reference 8211 842214 43°10'S 146°48'E.

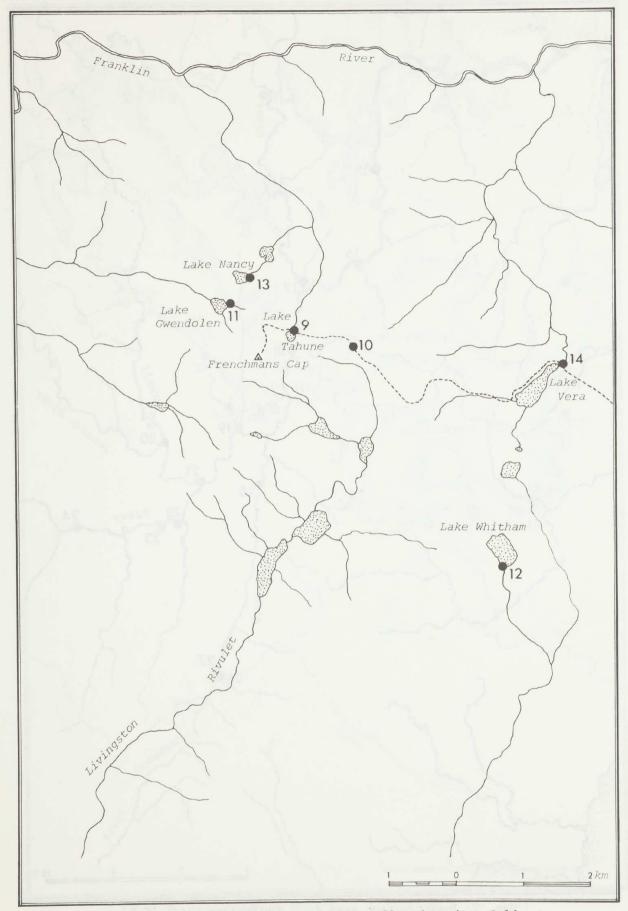


Map. 1. World Heritage Area, SW Tasmania. Trichoptera investigation areas 1 to 7

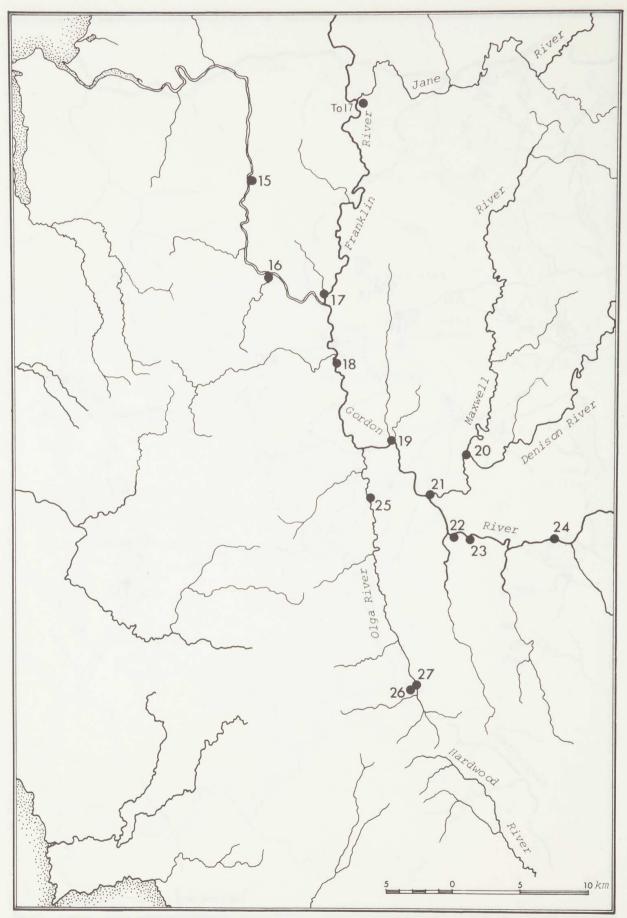


Map. 2. Investigation Area 1; Combined collecting site 1 (A-F)





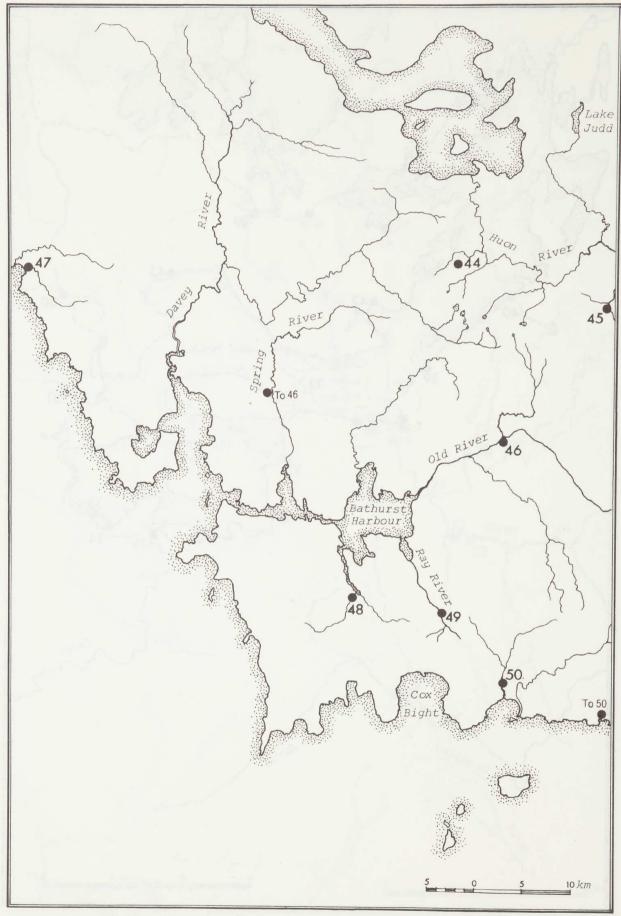
Map. 4. Investigation Area 3; Collecting sites 9-14



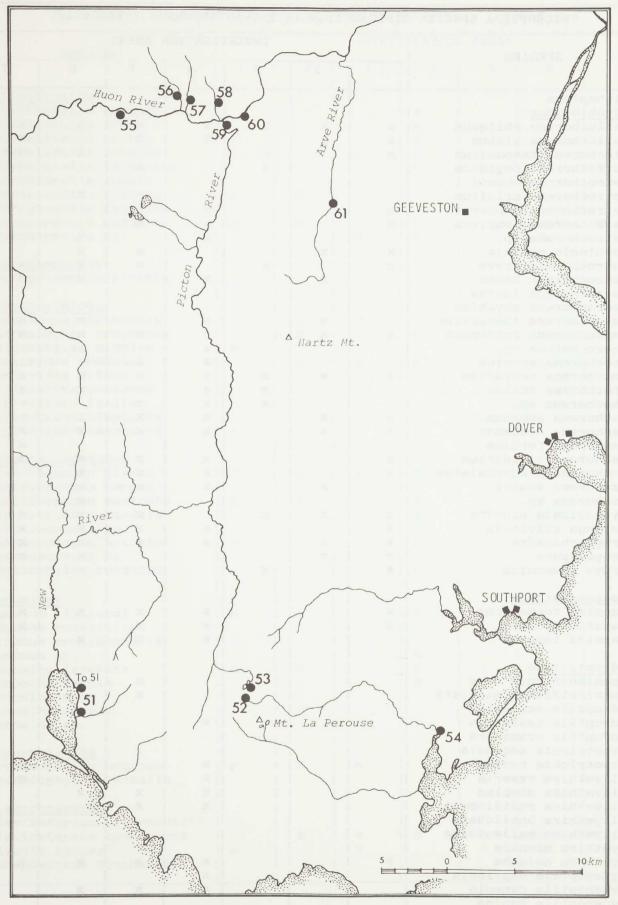
Map. 5. Investigation Area 4; Collecting sites 15-27



Map. 6. Investigation Area 5; Collecting sites 28-43



Map. 7. Investigation Area 6; Collecting sites 44-50



Map. 8. Investigation Area 6; Collecting sites 51-54

Investigation Area 7;
Collecting sites 55-61

	1		INVE	STIGATIO	ON AREAS		
SPECIES	1	2	3	4	5	6	1
0		1	1		1		
richoptera	1					1	1
Hydrobiosidae	1	1 25	x	x	x	x	x
Apsilochorema obliquum	X	X		l X	X	1	X
Apsilochorema gisbum	X	×		l X	, A		X
Allochorema tasmanicum	X	1	X	1		X	
Austrochorema pegidion	1		X		Х	1	X
Austrochorema evansi	1		1		1		!
Austrochorema crinitum						×	
Austrochorema lepnevae	X			×		1	1
Austrochorema complexa	×		1	x	X	1	
Austrochorema sp.	1	1	1	X		x	
Ipsebiosis spicula	X	x			X	x	1
Ulmerochorema breve	l x		x		×	X	×
Ulmerochorema seona	1	x		х		x	x
Ulmerochorema lentum	1		i		i	1	1
Ulmerochorema onychion	i				1	ì	i
Ulmerochorema tasmanicum		×		x		×	×
Ulmerochorema rubiconum	l x	X	I	l x	1 x	x	l x
	X			l x	1	1	1
Ulmerochorema sp.	1			!			1
Ethochorema secutum				X	X		
Ethochorema nesydrion	X	х	X	X	×	×	X
Ethochorema kelion		1	x	x	x	X	x
Ethochorema sp.			X	X	x		
Taschorema asmanum	×	X	İ	x	x	x	1
Taschorema apobamum	X	X	1	×	×	X	X
Taschorema ferulum	1					1	X
Taschorema viridarium	X		1	×	×	×	X
Taschorema pendunculatum	×	1	1	x	x	x	1
Taschorema evansi	1	i x	1	×	x	x	1
Taschorema sp.	i	i	i		i	l x	i
Ptychobiosis nigrita	x	×	×	1	×	×	x
Koetonga clivicola	x		1	x	x	X	l x
Moruya charadra	x	x	1	×	×	X	l x
Moruya opora	x	X	1	1	1 1	X	x
Moruya tasmanica	!	1 ^	1 37			1 1	1 4
moruya casmanica	X		X				1
Classesmetides					1		
Glossosomatidae			1				1
Agapetus tasmanicus	X		1	X	X	X	X
Agapetus cralus	X			X	×		X
Agapetus laparus	1		1	X	Х	X	
*****	1						
Hydroptilidae			The same		1		
Orphninotrichia acta	1				×	40	
Orphninotrichia maculata	1				x		
Hydroptila acinacis					1		
Hydroptila tasmanica	1		I HE .	×	1	1	1
Hydroptila scamandra	1	1		1	1	1	1
Orthotrichia adornata	1	1	1		1	1 3 6	1
Orthotrichia zonata	1	1	1	x	1		×
Hellyethira exserta	i	1	İ	×	i i	1	x
Hellyethira simplex	i -	-1 /	ì	×	x	x	1
Hellyethira multilobata	i	1	i	l x	i x	1	1
Hellyethira basilobata	1			1	1	1	
Hellyethira malleoforma	1	1	1		1	1	
		1	1			1	
Oxyethira mienica	1				1	1	
Oxyethira columba	X	1000		X	X	X	X
Maydenoptila explicata		1	Sala.	X			
Maydenoptila cuneola Maydenoptila rupina				×	×	×	
at a standard and a same and a same		. 5.		1			

SPECIES			INVES	TIGATIO	N AREAS		
SPECIES	1	2	3	4	5	6	7
Philopotamidae				1			1
Hydrobiosella corinna			- 0	l x	i	1	1
Hydrobiosella orba	i i			X	x	i	1
Hydrobiosella cerula	i i			X	l x	1	i
Hydrobiosella anasina			×	l x	1		
Hydrobiosella tasmanica	1			l x	x	x	x
Hydrobiosella armata				1	1	1	1
Hydrobiosella cognata	x	x		1	1		1
Hydrobiosella sagitta	1			1			
Hydrobiosella waddama	x	x		1 20	1	1	1
Hydrobiosella sp.		A		X		X	X
nydrobiosella sp.			X	X	1	Х	1
Stenopsychidae	1			1	1	BHETEN	1
Stenopsychodes lineata	1			1	1		1
compayendes illieata							1 2 2 3 3
Hydropsychidae	1			1		11-1-20	
			H			N-HE-MINE	1-076
Cheumatopsyche modica Smicrophylax creektona		X	X	1			
		X		X		X	X
Smicrophylax simplex	x			1	1	letter variable	TEGE
Asmicridea edwardsi	2	X	X	X	X	X	X
Asmicridea grisea		1 2			1	400	1000
Diplectrona castanea					1	STERON.	1 1000
Diplectrona lyella						speny	daogn
Diplectrona bispinosa	1				l em	lord, ser	deson
Diplectrona tasmanica	x	1 1	Х	X	anl.	gan aco	1
Dolarontwonedia	8	1 1 30			Maga La	n Lb ago	
Polycentropodidae	X .	E E	1 15		40 400	gen and	12500
Plectrocnemia altera	x	X	x	×	X	X	X
Plectrocnemia lacuna		1			1	y 128 1000	denda
Plectrocnemia manicata	X	X		X		X	×
Plectrocnemia caudata				X	x	X	X
Plectrocnemia sp.				×	- Computer	×	de la
Tasmanoplegas spilota	x			×	X	X	1
Tasmanoplegas sp.				1	1	×	1
Nyctiophylax repandus				x	1	0.00	×
				1	1	mident	
Ecnomidae	i			1		BURNES	Sist
Ecnomus tillyardi	x	х		х	×	х	×
Ecnomus russellius	i	х		i	x		
Ecnomus continentalis	1	- JC		1	İ	TEST LA	i
Ecnomus sp.				x		The Control of	
Ecnomina irrorata	x	х		X	x	x	l x
Ecnomina legula		**		l x	X	X	l x
Ecnomina regula Ecnomina vega				1		1	1
Ecnomina vega Ecnomina batyle		х		1	1		1
Ecnomina batyle Ecnomina sp.		Λ		l x	x		
Schomina sp.				1	_ A	X	1
Limnephilidae				i			1
Archaeophylax ochreus	ж	х	х	i		x	l x
Archaeophylax vernalis			-,	1	×	X	1
ar chaeophyrax verhalis							
Plectrotarsidae						THE PARTY OF	1
				1			
Plectrotarsus gravenhorsti		77	N.	1 77	I TO		1
Plectrotarsus tasmanicus		X	X	X	X	X	1
Liapota lavara	X		X	1 .	X	×	1
Nanoplectrus truchanasi						X	1

SASSA MOUDA			INVES	TIGATIO	N AREAS		
SPECIES	1	2	3	4	5	6	7
Deconesidae	1	1 .	<del></del>	1	1	sshine	r coll
Tascuna ignota	x	i		×	×	×	Idons
		i		İ	Lock	b salima	dosb
Casimiidae		i		i	I Maria	af Les	oldensb
asimia palpata	i l	i		İ	Innima	afisad	1
asimia denticulata		i		1	Lagrand	ELless	deable
Tasimia drepana	i	ì		i	- Table	mil Lucus	x
Tasiagma ciliata	į	- 10	34			etlees	dodb
Conoesucidae		7.				silset	1000
Mampa patona	i	x		x	1 9	silbac	x
Matasia satana	1			1	×		x
Costora iena	1			1	1	= NOLMEY	1
Costora delora				x	( demod )	- Berral	I SIERS
Costora ebenina	х			1	1		1
Costora ramosa	×			x		nahhhib)	1000
Costora krene	I I	R			x	х	A FEBRURE
Costora seposita	i	x	x	i		o waive	00000
Costora luxata	x			i	MO LOW	х	1035L
Costora rotosca		×	х	x	x	x	X
Costora sp.	i	х			x	х	Table 1
Lingora aurata	x	x		l x		BORSHOR	Jon La
Lingora vesca				1		VI zpon	jastg
Conoesucus fromus	i x			i	i semetini	Lambaga	Jan La
Conoesucus norelus	x	x	1 30	x		x	X
Conoesucus digitiferus	×	x	x	x	x	х	1 =
Conoesucus nepotulus	x	x	х	x	х	х	issylv
Conoesucus brontensis	8   I   10	x		i	0.000	all the same	1
Conoesucus sp.	į			x	х	a francis	datas.
Helicopsychidae			-		s. fatbus		12208
Helicopsyche bartona	x	1		1			1 3 3 7 7
Helicopsyche murrumba			36	X	A.Fol Lyi		X
Calocidae					BUDARES		0135
Caloca tertia						x	
Caloca saneva	×					Х	I HOE
Caloca ascita		x	20		1 1 18-1	my by kit	dudon:
Caloca sp.	1	1			X	198697	of the no
Caenota plicata	1	x	X	x	X	X	×
Camasia variegata	×			X		х	L HERS
Helicophidae		i		i	i	a Jeggs	i
Helicopha astia	1	1		I	1	stray s	disent
Helicopha delamarei	x	1 7 7		1	1	LUCIO B	diam's
Helicopha sp.				x	1		1
Alloecella grisea	×			x	x	x	x
Alloecella longispina	x	x	x	x	X	x	x
Alloecella pilosa	X	x	80	X	X	×	d Litter
Kokiriidae						X Control	
Taskiria austera	. 1	1		x	х	х	chot sair
Taskiria mccubbini		1		1 1 1 1 1 1 1	x	PUBERS	1 150
Taskiropsyche lacustris		1 1		1	x	- Free of	1 100

CDECTEC			INVE	STIGATIO	N AREAS		
SPECIES	1	2	3	4	5	6	7
Philorheithridae	1		1			1	1
Austrheithrus ronewa				x			1
Austrheithrus glymma	1		1	X			×
Austrheithrus sp.	1		1	l x	1	4000	1
Kosrheithrus remulus		1	1		1	we Oil or	Idont
Kosrheithrus sp.			1	X	com L for	0.00	1 1
Ramiheithrus kocinus		1 2	1	×	A LINE IN	0.000 000	
Aphilorheithrus stepheni	x	l x	1				1
Aphilorheithrus pauxillus	1 4	X	1	X	×	X	X
Aphilorheithrus decoratus	1		!	X			
Aphilorheithrus luteolus	×	!	X	X	X	X	
Aphilorheithrus sp.	1	!	!			x	1
Tagmanthrug angusting	1	1			X	×	1
Tasmanthrus angustipennis	X	×		x		x	x
Tasmanthrus sp.			X	1		- 7 2 4 1 8	1
		1		1	1	100.000	1
Atriplectididae		1	1	1		B-1 THERE	i
Atriplectides dubius	x	x	×	×	x	х	x
	1	1		1	18 11 15 7 2 1	Date let	1
Calamoceratidae	1	1		are a			1
Anisocentropus latifascia	1	1		1 - 102	nostdos		1
	1	1		i			
Leptoceridae	i	1		i	TELIBAN		
Westriplectes pedderensis	i	i			х		de sens
Triplectides ciuskus	i	11 18		l x	-	x	noden.
Triplectides magnus	i	11 8		l x	x		of different
Triplectides similis	i	it		X	X		x
Triplectides truncatus	i	i		l x	x		1
Triplectides bilobus	l x	×	х	X	x	neg (sine	o does
Triplectides proximus		1 2	2	1	, A	X	X
Triplectides elongatus	x			l x	n film.		antow
Triplectides sp.	1			X	stod	101115-0	1070
Notoperata sparsa	l x		35	1 1		X	BWUT
Notoperata maculata	X	1 77	X	1	X	X	X
Symphitoneuria opposita	1 X	X		X	Х	x	X
Triplectidina nigricornis	1			X			
	X	x		X	X		X
Lectrides varians	1		X	x	x	X	×
Notalina parkeri	X	X		1	Х		1
Notalina fulva	1	×	X	X	X	X	x
Notalina tillyardi							1
Notalina bifaria	X	x		X	X	X	1
Notalina nigra		X		1			1
Notalina sp.				X	x	х	1
Condocerus paludosus				X	x	X	x
Leptorussa darlingtoni		1		x	x		1
Triaenodes intricata		x		x	x		X
Decetis pechana	1			1	x		1 10 10 10
Decetis umbra	x	1		x	575010		T TOTAL
Decetis gilva		1 1		1	6150		j me
Decetis australis		1 i			x	х	i
Decetis minasata	x		x	1	11111	X	x
Decetis laustra	i			x	x	X	1
Decetis asmanista	i	l x		X	Jana Li	BO BYIN	1 2
Decetis arcada	x		x	X	х	V	X
Decetis inscripta		l x	41		Δ	X	X
Decetis scirpicula	1				7.		1
	1	1		1	Х		1
ecetis sp.	1	1		X	x	X	1

	S	ITES F	OR INVE	STIGA	TION A	REAS 1	. & 2.	
	AREA 1	1			AREA	2	298	
SPECIES			1 1		1	1 8 8 8	Lares	1
	1	2	3	4	5	6	7	8
Trichoptera		1	1 1		1	1 98 9	14/13/25	1
Hydrobiosidae	!	1			l lead	0.00		1
Apsilochorema obliquum	X				1	X	X	X
Apsilochorema gisbum	X	X	x		1981	Lagal	LUTES L	X
Allochorema tasmanicum	X	100	1		-enge		1 Lada	dille
Austrochorema pegidion		1	1		and instance	E E E	- Loss	
Austrochorema evansi		1	1		I BE TO S	Barnis	bleds	1
Austrochorema crinitum	1	1	1		Literati	i emu	1	1000
Austrochorema lepnevae	×	1				e arm	I dede	1
Austrochorema complexa	×		1 1		pringle	angrie	learning.	1
Ipsebiosis spicula	×	X	1		1	I Jens	hunds	dear
Ulmerochorema breve	×	1	1		1	1	1	1
Ulmerochorema seona	1	x	1		1	1	1	100
Ulmerochorema lentum	1	1	1 1		1		10000	1
Ulmerochorema onychion	1	1	1 1		1	1	1	1
Ulmerochorema tasmanicum	Ì	x	1 1			l det	7040	1
Ulmerochorema rubiconum	x	X	1 1		1	1	1	X
Ethochorema secutum	İ		i i		1		1	1
Ethochorema nesydrion	x		i i			х	х	i x
Ethochorema kelion		i	i i				1	i
Taschorema asmanum	x	x	i i				x	1
Taschorema apobamum	x	x	i i				x	i x
Taschorema ferulum			i i					1
Taschorema viridarium	x	i	i i				1 4 4 4	1
Taschorema pendunculatum	X		i i					1
Taschorema evansi		х	i x i					l x
Ptychobiosis nigrita	x	х	i i				x	1
Koetonga clivicola	x		1 1			THE REAL PROPERTY.	1	1
Moruya charadra	x	i	x			1189	1	x
Moruya opora	X	x	1				×	x
Moruya tasmanica	х				= 4125	go st	Denta	
Glossosomatidae					THE STATE OF	151,5	lability in	Lo
Agapetus tasmanicus	x	i	i i					1
Agapetus cralus	x	i	1 1					i
Agapetus laparus	Ì		i i		1 1	distant.		1
		1 4 9	1		1 4		los ed	1
Hydroptilidae	1		1 1				La sa	1100
Orphninotrichia acta	1		1				ion an	1
Orphninotrichia maculata	1						Burne	haba
Hydroptila acinacis	1	1	1		I have the		2 = 0	la de
Hydroptila tasmanica	-				2.7		mobel	1 3 6
Hydroptila scamandra			1				1000	1
Orthotrichia adornata	1		1					
Orthotrichia zonata	1		1 i				115 6	i
Hellyethira exserta			1					1
Hellyethira simplex		,	i					1
Hellyethira multilobata	1	1	1 1					1
Hellyethira basilobata	1		1				Lange II	1
Hellyethira malleoforma		i						1
Oxyethira mienica	İ		i					i
Oxyethira columba	×						1 - 2 2	1
Maydenoptila explicata	1		1					i
Maydenoptila cuneola		i						i
Maydenoptila rupina			1					1

S & C ARSA MOLTAGE	1 5 5 9 F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SITES I	OR INV	ESTIGA	TION A	REAS 1	& 2.	
	AREA 1	1			AREA	2		
SPECIES						03102	93	
	1	2	3	4	5	6	7	8
Philopotamidae		1	1		1	1		
Hydrobiosella corinna			1	1	1	1 115	FQ1 84	1
Hydrobiosella orba			i		1	1	1	1
Hydrobiosella cerula			1	1	1	1	9884	1
Hydrobiosella anasina			1	1	1	1 53 50	183 84	1 2 3 3
Hydrobiosella tasmanica			1		1	I Thought	Lap of	1 184
Hydrobiosella armata					1	1 4000	LAD RILL	1
Hydrobiosella cognata	x		X	1	1	X	to page	X
Hydrobiosella sagitta				1	1	1	1	1
Hydrobiosella waddama	×		1			!	X	
Stenopsychidae								
Stenopsychodes lineata	Ì	1	i		i		F84 89	1
Hydropsychidae				1	1			
Cheumatopsyche modica		l x	1		1			
Smicrophylax creektona		1 4		1	1			x
Smicrophylax simplex	×	1		1	1			1
Asmicridea edwardsi	1	l x	ix	1			v	1
Asmicridea grisea		1 1	1 ^				A	1
Diplectrona castanea				1				1
Diplectrona lyella		1	1	1				1
Diplectrona bispinosa			1	1				1
Diplectrona tasmanica	х					HIBST I		080
		1 × 1	1	1= -	1	Vignor	EUSUE	1000
Polycentropodidae								1
Plectrocnemia altera	х	х	1	1	1			1
Plectrocnemia lacuna		1	1		8188			1
Plectrocnemia manicata	X	X			1	1	х	1
Plectrocnemia caudata			1		1		T- NBMG	1
Tasmanoplegas spilota	х							
Nyctiophylax repandus							rakada	
Ecnomidae		i	i		i	i	1000	
Ecnomus tillyardi	x	X	1	l	1	1	X	1
Ecnomus russellius				Х	1			1
Ecnomus continentalis	18		!		1	5.7	388 B	
Ecnomina irrorata	x	х	X		!	9785	X	1
Ecnomina legula		!	1		!	EN EN EN	15 Y 54	Teme
Ecnomina vega		l x						
Ecnomina batyle		*			1	BEJ E	8 8 8 9 5	
Limnephilidae		!	1		1	Lauele	Edda	1 4
Archaeophylax ochreus	x		X			PERT IS	Х	
Archaeophylax vernalis			1		1 6414	TAME		
Plectrotarsidae								1
Plectrotarsus gravenhorsti		i	1		1	i	NAB I	
Plectrotarsus tasmanicus		x	x		i	1		1
Liapota lavara	ж		i		1	1		
Nanoplectrus truchanasi								

TRICHOPTERA SPECIE							LE 2.	
	i	SITES E	OR INV	ESTIG			l & 2.	
SPECIES	AREA 1	1	1 44.16		AREA	2	192	
	1	2	3	4	5	6	7	8
Deconesidae	1	1	1	l I			1 = 830	
Tascuna ignota	x	į i	İ	į	* smill	199 8	l sent	d and
Tasimiidae					610	1 3 8	l esot	1
Tasimia palpata	i	i	1	i	snie	Lan a	seor	de la
Tasimia denticulata	i	i i	i	İ	Land all them	147 6	Immati	i pala
Tasimia drepana	i	i	i	1	l udis	ma al	Losol	dimbr
Tasiagma ciliata			į	i	1 32 50	les al	meok	d b d b d
Conoesucidae					8774		9804	
Hampa patona	1	i	İ		Î	1	x	1
Matasia satana	i	i	1	İ	1	i and	t dovie	1
Costora iena	1	i	i	i	Latenn	LI BEI	I noww	1 119
Costora delora	I	i	1	1	1	i	1	1
Costora ebenina	x	1	1	1	1	l est	Lasvas	bala
Costora ramosa	x	l x	1	1	1	on one	legod.	LO TO
Costora krene	1	1	1	1	Lemma	1010 2	I value	Ish
Costora seposita	1	1	1.		X	bulle a	.blgdqi	oko la
Costora luxata	X	1 3	1	1	1 12	DIGNOSCI	ashi	blas
Costora rotosca	1	X	1	1	x	seal ng	sapl.	the limit
Costora sp.				x	597	FFEED	100721	1 (4)
Lingora aurata	x	x		×	X	Taxr	MADE TO	101
Lingora vesca	!	!	1	1	BRITTE	rds ga	100,131	1191
Conoesucus fromus Conoesucus norelus	X	1	!	1	4910	1	1 1000	1
Conoesucus digitiferus	X   X	X	1	X	1 75		X	X
Conoesucus nepotulus	l X			x x	X	×	1 GEO DE	l x
Conoesucus brontensis	1 1			1	x	1	100000	l x
	i					1		1
Helicopsychidae	i	i	i	i				1
Helicopsyche bartona	x	i	i	i	I	Leve as	1	1
Helicopsyche murrumba	1		1	1	- out of		Lydge	1 3 34
Calocidae							1	
Caloca tertia	i				1	Aug may 7		
Caloca saneva	×	i	i	1	1	DIETE.	1	hon
Caloca ascita		1	x	i			LOS EL	100
Caenota plicata	1 10	1 11	İ	i	i	13 13 20 3	x	10.01
Tamasia variegata	х	1			1	albe	hi sad	rous
Helicophidae		30				HIVI	-	heads.
Helicopha astia	1	1	i				i	
Helicopha delamarei	×	i		i	İ		LITTER	1
Alloecella grisea	×	1		1	Licato	(mm 38m	Unaba	1
Alloecella longispina	x	x	1	1	x	DV X	x	beton
Alloecella pilosa	x			Х	х		!	х
Kokiriidae		1		100		9901	15263	1 35
Taskiria austera	1 2				In Lease		-	1001
Taskiria mccubbini				1		1		1
Taskiropsyche lacustris	i	1	1	1			1-0-1	1

TRICHOPTERA SPECIES						TABL		
HTITATION AREA 3.	EVALUATION .	SITES F	OR INV	ESTIGA	TION A	REAS 1	& 2.	
SPECIES	AREA 1	ı			AREA 2	2	148	
No. of the latest and	1	2	3	4	1 5	6	7	1 8
Philorheithridae		1	1	1			1	1
Austrheithrus ronewa Austrheithrus glymma Kosrheithrus remulus Ramiheithrus kocinus					modi modi modi lan			
Aphilorheithrus stepheni Aphilorheithrus pauxillus	x	x	X	1	18000	133 50	bandson.	1
Aphilorheithrus decoratus Aphilorheithrus luteolus	×			1	DARLO	TID GET	eleo:	1283
Tasmanthrus angustipennis	x		X	1	1 50		X	X
Atriplectididae Atriplectides dubius	x	×		l x	ne inter	ino sa	x	Lea
Calamoceratidae Anisocentropus latifascia					Leonwa			
Leptoceridae			20		-Arts	D. Les	Made	l od
Westriplectes pedderensis Triplectides ciuskus						- ge	68910	
Triplectides magnus Triplectides similis		İ	1		ap		E MATE	1383
Triplectides truncatus Triplectides bilobus	×	x			Marks		x	138
Triplectides proximus Triplectides elongatus	x				873		50000	
Notoperata sparsa Notoperata maculata	x	   x					1 200	
Symphitoneuria opposita Triplectidina nigricornis				1			ngo s	44
Lectrides varians	x	x					X	1
Notalina parkeri Notalina fulva	×	x	X		l Bul		63 kg	186
Notalina tillyardi Notalina bifaria	x	   x	1	1			×	Pqs
Notalina nigra Condocerus paludosus		1	x	x	x			1
Leptorussa darlingtoni Triaenodes intricata		l x					77001	
Decetis pechana		1 ^	!					
Decetis umbra Decetis gilva	х				535		81170	
Decetis australis Decetis minasata	x				67.56		Lasta I	
Decetis laustra Decetis asmanista		x	i		43		The state of	
Decetis arcada	x	i			12000		- PALE	1
Decetis inscripta Decetis scirpicula		X	1				100 000	

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SPECIES		1	1	1	1	1
	9	0	1	2	3	4
hilopotamidae		1		+		
ydrobiosella corinna	1	İ	i	i	a tone !	
lydrobiosella orba		1	i	i	i i	
ydrobiosella cerula	1		i	i	1	
ydrobiosella anasina	x		i	i		
Mydrobiosella tasmanica		İ	i	i ata	I	
ydrobiosella armata	1		i	i	laraceata l	
Nydrobiosella cognata	1	1	1	İ	l slits d	
Hydrobiosella sagitta	1		1	1	1 1	
Nydrobiosella waddama	1	1		İ	I sabel	
lydrobiosella sp.	x	!		1	57071	
Stenopsychidae					D: 5 88	
Stenopsychodes lineata	İ	i	i		120100	
		1		1	entande	
Hydropsychidae		1			Seomet	
Cheumatopsyche modica	x	1	1	1	eners	
Smicrophylax creektona	1	1	1	1	of tacque	
Smicrophylax simplex	1	1	1	1	Liquotta	
Asmicridea edwardsi	Ţ	1	1	x	Edecing	x
Asmicridea grisea	1	1	1	1	ATATUS	
Diplectrona castanea	I	1	1	1	npagg	
Diplectrona lyella	1	1		1	Incest and	
Diplectrona bispinosa				ms-	syon and	
Diplectrona tasmanica	X			8 true 2-11	tplk em	x
Polycentropodidae			ì			
Plectrocnemia altera	i	i	i	x		
Plectrocnemia lacuna	İ	i		İ	Land Labour	
Plectrocnemia manicata	İ	i	i	I saar		
Plectrocnemia caudata	İ	i	i	i a	i i	
Casmanoplegas spilota	ĺ	i	i	i	i	
Tyctiophylax repandus						
					21/70/	
Conomidae		1	1	1	1	
Conomus tillyardi		1	1 -	1	1	
Conomus russellius	1	1	1	1	L	
Conomus continentalis	1		1	1	1	
Conomina irrorata		1	1	1	I mobile	
cnomina legula				I a	Isides of	
cnomina vega				ists	to tet at	
cnomina batyle				01	birg all	
imnephilidae	4			MALGE	olte sti	
archaeophylax ochreus	х	1	1	1/2	1	
rchaeophylax vernalis			!	1	l pad	
Plectrotarsidae					Taleus s	
lectrotarsus gravenhorsti				1 200	I me on a	
lectrotarsus tasmanicus	x	x		×	4 4 4 4 4	
iapota lavara	A	1	×	X	x	
Manoplectrus truchanasi			1		A .	

TRICHOPTERA SPECIES	DISTRIBUT				
B ALIA RETURNITE	8142 BOA C	SITES F	OR INVES	TIGATION AREA	3.
SPECIES		1	1	1 1 1 1	1
	9	0	1 1	2 3	4
Deconesidae	i		i -	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	an logo id
Cascuna ignota	!!!!			RESIDENCE OF THE SECOND	00 1 1 00 10
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Tasimia palpata					and down
Casimia denticulata					and between
Casimia drepana			1		
Casiagma ciliata					
			!		
Conoesucidae	!!!			annerso in the	2007
Hampa patona				1 1 2 2 2	and Thomas
Matasia satana			!	!!!	
Costora iena	1		!		40 10000
Costora delora				PRESENT REDUC	ard adops
Costora ebenina			Į.		1
Costora ramosa			!		day sacra
Costora krene				. MOTOS MISS	
Costora seposita			1		х
Costora luxata				Seldits X8	TA deapy
Costora rotosca			1	Ten awar	x
Lingora aurata					
Lingora vesca	1 1		!	TORREST END E	
Conoesucus fromus			!		
Conoesucus norelus					
Conoesucus digitiferus	!!!!			2011/10/21/21	×
Conoesucus nepotulus	!!!!		!		×
Conoesucus brontensis	!!!!!		!		
	1		!		
Helicopsychidae	!!!		!		
Helicopsyche bartona	!!!		1		
Helicopsyche murrumba					
0-1	!!!!		1		
Calocidae Caloca tertia	!!!!				- 10 14 1
Caloca tertia Caloca saneva					
Caloca saneva Caloca ascita					er bleens
Caenota plicata	x			Lyweld	Li antoni
Tamasia variegata	A			entiteas	ural aument
lamasia variegata				Dilas salsu	on annom
Helicophidae			i	Particul	i dimons
Helicopha astia			i	l islame	1 galmons
Helicopha delamarei	i		i	aps	y historia
Alloecella grisea	i		i	0.000	d princers
Alloecella longispina	x		i	i	×
Alloecella pilosa				500	LLidgsom
	i i		=	swaring wal	ydq araday
Kokiriidae	1		1	alisativ sal	VERSONERS
Taskiria austera	l i		1	i i	i i i
Taskiria mccubbini	i		1	inable	3114
Taskiropsyche lacustris	1 1		1	the contract of the later	

	1		SIT	ES F	OR	INVE	STIG	ATION	AREA 3.	
SPECIES		9		1		1 1		1 2	1 1 3	1
Philorheithridae	1		1		-		+		1	1
Austrheithrus ronewa	1		1		1		i			Idabb
Austrheithrus glymma			į –		i		i			in
Kosrheithrus remulus	1		i		100		i			1
Ramiheithrus kocinus	1		i		i		i			Justico
Aphilorheithrus stepheni	1		1		i		i		la cherry	100 170
Aphilorheithrus pauxillus	1		1		İ		i		is steen	1
Aphilorheithrus decoratus	x		1		1		i m		x	inom
Aphilorheithrus luteolus	1		1				1		1 18910	10030
Tasmanthrus angustipennis	1		1		1		1 2		1	120126
Tasmanthrus sp.					×		1		de eppe el	130778
Atriplectididae	1		1		1				July E	DOT THE
Atriplectides dubius	x		i		1		1		-	x
Calamoceratidae					1		-			120100
Anisocentropus latifascia	i				i		1		1 04110	30790
Leptoceridae					1				1 2 20 3	
Westriplectes pedderensis	1				1		1			
Triplectides ciuskus	1				1		1			
Triplectides magnus	i				1		1		1 55 555	
Triplectides similis	i				1		1		DA DATE	
Triplectides truncatus	1				1					1
Triplectides bilobus	x		1				i		in both and	×
Triplectides proximus	i		i		i		i			1
Triplectides elongatus	i		i		i		i		ilati sa	in a dise
Notoperata sparsa	x		i		i		isso I		Diger by	×
Notoperata maculata	i		İ		i		i		more son	and
Symphitoneuria opposita	1		1		1		İ		to alea	dodby
Triplectidina nigricornis	1		1		1		1		obv la	2007 5
Lectrides varians	x		1		1		1		Babered	BUAT
Notalina parkeri	1		1		1		1		8700	1
Notalina fulva	1		1		1		1			×
Notalina tillyardi										
Notalina bifaria					1				01110 572 M	1 110
Notalina nigra										
Condocerus paludosus	1						1			1 198
Leptorussa darlingtoni					1				1 3 - US L 3	444
Triaenodes intricata	1				1				100	
Decetis pechana	1	*	1		1		1			
Decetis umbra Decetis gilva	1		1		1		1			
Decetis gilva Decetis australis	1									
Decetis australis Decetis minasata	x				1		1		10000	
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Decetis laustra	1		1		1		1			agest se
Decetis asmanista	x				1		1		INF APRIL	
Decetis arcada Decetis inscripta	1				1		1		1 - 2 - 4 - 2	
Decetis inscripta	1				1		1			

LA ALTA HATTANA						INVI		WHA.	ON A	REA	4.		
SPECIES	1 1	1 1	1 1	1 1	1 1	1 2	1 2	1 2	2	2	2	1 2	1 2
	5	6	7	8	9	0	1	2	3	4	5	6	7
Trichoptera	1					1						1 10	1
Hydrobiosidae	1			1				l x	x	!	1		1
Apsilochorema obliquum	1		X	X		X		X	1 1		1	1	1
Apsilochorema gisbum Allochorema tasmanicum	1	X	l X	1 2		1 4		1					1
Austrochorema pegidion	1	1	1	1				700			1130		1
Austrochorema evansi	1	1							1000		Flan	101	i
Austrochorema crinitum	1		i	i				James	100	1		i	i
Austrochorema lepnevae	i	x		1	1	1		Hio-	Dan L		Sier	inal.	1
Austrochorema complexa	i		х	i		i i	61	ж	1 7 40		1	1	i
Austrochorema sp.	i	×	i	i		i i		į	×	İ	1000	1 and	1
Ipsebiosis spicula	i	1	i	l				1	1	1	1	1	1
Ulmerochorema breve	ĺ	1	ĺ	1		1 1		1	1		had;		1
Ulmerochorema seona	1	1		1	!	x		1	1			leig.	1
Ulmerochorema lentum	1	1	1	I		1 1		1	1	1	1	1	1
Ulmerochorema onychion	1	1		1				1	1			100	1
Ulmerochorema tasmanicum	1	1	×	1	X	x		x	X	×	X	35/01	X
Ulmerochorema rubiconum	1	1				X		x	1	х			X
Ulmerochorema sp.		!		×		!!!						0.00	!
Ethochorema secutum						!!!		X				dra	
Ethochorema nesydrion			1					X	X		1	7	X
Ethochorema kelion Ethochorema sp.		1	X	1		1 1		x	X				1
Taschorema asmanum			1 1	1		1 1			×	1 2			1
Taschorema apobamum		×	x	x	x	x		x	X	1	x		×
Taschorema ferulum	i	1	1	1	1	1		1	1		22		1
Taschorema viridarium	i	1	x	i		i				×	-51	1	×
Taschorema pendunculatum	i	ì	х	i		- i		х		7400		7908	1
Taschorema evansi		×	х	i		i i				х	х	-996	×
Ptychobiosis nigrita				1		1		TER	oner	10 10			1
Koetonga clivicola	1	×		1		1 1		and sec		n ai			×
Moruya charadra	1	1	1	1		=		x	x	X	w 86	DIT!	00
Moruya opora	1	1	1	1						TEDL	87 1		10
Moruya tasmanica										8.74	07 (		tel
Glossosomatidae		i	i	i		i i					14 1	nide	131
Agapetus tasmanicus		x	x	1	X	X		X	x	EE	X	X	X
Agapetus cralus						!!!			ж		400	E001	no:
Agapetus laparus								I A	X		Little Co.	25.103	
Hydroptilidae			1	1		1 1			Janes,		_ F 54		
Orphninotrichia acta			1	l I		1 1							
Orphninotrichia maculata		1	1	1		i i							
Hydroptila acinacis		ì	ì	i		1 1							
Hydroptila tasmanica	i	ĺ	×	х		iii		х					
Hydroptila scamandra	i	i	İ	i		i				B - 1 A	del.		50
Orthotrichia adornata	1	1	1	i		1 1				n I m		0130	
Orthotrichia zonata	1	1	×	1		1				15.50		x	
Hellyethira exserta	1	×	1	1		x			6.1		enî		00
Hellyethira simplex	X	х	х						ж	10	150	10	
Hellyethira multilobata												х	×
Hellyethira basilobata	1												
Hellyethira malleoforma	1		1	1					3				
Oxyethira mienica Oxyethira columba	1	1	1	1				3"					1
Maydenoptila explicata				x				x	v				1
Maydenoptila explicata Maydenoptila cuneola	1			1		x		x	X				1
Maydenoptila rupina		1	1	1		1 2		4					

TE 8594 HOLTES		AJ A	S	ITES	FOR	INV	ESTI	GATI	ON A	REA	4 .		
SPECIES	1	1 1	1 1	1 1	1 1	1 0	1 0		1 0	1 0	1 0	1 0	
SPECIES	5	1	1 7	8	9	0	2	2	3	2	5	2	2
Philopotamidae		1	1		1	1		1		1	1		1
Hydrobiosella corinna   Hydrobiosella orba			×	1				x	×		Len	51111	1
Hydrobiosella cerula		i	x		i	1		1	1 22	x			1
Hydrobiosella anasina		i				i		х					1
Hydrobiosella tasmanica		1	1	1	İ	1	1	1	х	×		l a Fm	1
Hydrobiosella armata		1	1	1	1	1	1	1	1	1	1,000	BIR	1
Hydrobiosella cognata						1		1	1	-		mae	1
Hydrobiosella sagitta						1		!	!				
Hydrobiosella waddama		1				X	!			!	100	1229	
Hydrobiosella sp.		X	X		X	1	1	X	X		tool	13 8	-
Stenopsychidae Stenopsychodes lineata		İ				İ							
Hydropsychidae		1	1			1				THE STATE OF		230	1
Cheumatopsyche modica		i	i	1	1	İ	İ	i	İ		İ	1	i
Smicrophylax creektona		х	×	ж	1	1	х	×	×		х	х	1 3
Smicrophylax simplex		1	1	1	1	1	1				1	1	1
Asmicridea edwardsi		1	X	x	1	x	Х	×			х	х	1 3
Asmicridea grisea												100	!
Diplectrona castanea			!			1				1	1000	830	
Diplectrona lyella Diplectrona bispinosa		1	1		1					LEG T	24	Dan	
Diplectrona tasmanica										х			
					1						1 20	70.0	
Polycentropodidae		x	l x		l x	x			x	Tarin.	x	×	1 3
Plectrocnemia lacuna		1	1	ľ	1	1	<u> </u>		7.	- 45	2.	1	1
Plectrocnemia manicata		1			ĺ	i			х			1	1
Plectrocnemia caudata		x	x		i	i		×	х	000		STA	
Plectrocnemia sp.		х	i	i	1	i	i		101				i
Tasmanoplegas spilota		1	×	1	1		1				×	X	1
Nyctiophylax repandus		х	х			1							
Ecnomidae		1	1	1	1	1		l 	1	5	3.25	117	1
Ecnomus tillyardi		x	×	х	х	x	х	х	х		i	х	i
Ecnomus russellius		1	1	1	1	1	1	1	1		1	1	i
Ecnomus continentalis		1	1	1	1	1	1	1	1		1	1	1
Ecnomus sp.		1	1		1		1				1		3
Ecnomina irrorata		×	×	X	Х	X	Х	х	Х	X	Ж	Х	3
Ecnomina legula		Х	X	х	Х	X	х	×	Х	elt		000	1
Ecnomina vega									len	Lagra	ib al	1990	1
Ecnomina batyle				l l x	1			1			x	990	1 2
Ecnomina sp.					1	i			3	BAR		1	1
Limnephilidae		1	1	1	1	1	1	1			1		1
Archaeophylax ochreus				1			!					1	1
Archaeophylax vernalis						1	i				991		-
Plectrotarsidae		1	1							397	78		1
Plectrotarsus gravenhorsti		1	1		1	1	1		-		1	1	1
Plectrotarsus tasmanicus	x	1	1	1	1	1	1				х	×	1
Liapota lavara		1	l	1	1	1	1				1	1	1
Nanoplectrus truchanasi		1								1	1	1	1

TRICHOPTERA SPECIE	2 DI:	STRII		ITES							E 4.		-
	i											1 0	1
SPECIES	1	1	1 7	1 8	9	0	2	2 2	2	2 4	2	1 6	
Deconesidae	1	1	1	1	1	1		1	1	1	1	1	1
Cascuna ignota		1	x									Pide	1
Casimiidae	i	1	i	i	i	i	ĺ		1	1	1	Inge	1
Tasimia palpata	1	1	1	1	1		1	1	1	1	1	1	1
Casimia denticulata	1		1	1	1	1	1	1	1	1	1	1	1
Tasimia drepana Tasiagma ciliata	1					1							1
Conoesucidae		1				1			pess		1 100	1 46	1
Hampa patona	i	i	1	i		1	i	x	į .	1	1 1 1 9	1300	1
Matasia satana	i	i	i	i		i		i	i	i	i	1	1
Costora iena	i	İ	i	i		i		İ	i	i	1	1 490	1
Costora delora	1	1	i	i		x		×	Pant	1	1	x	1
Costora ebenina	i	i	i	i	i l			i	i	i	i	i	1
Costora ramosa	1	×	×	1	х				х	х	1	198	1
Costora krene	1	İ	1	1		1		1	1 80	1	1	1 355	1
Costora seposita	1	İ	1	1				1	1 7 3 8	1	ELY	don	1
Costora luxata	1	1	1	1				1				1	1
Costora rotosca	1	1	1	1				×	1	1	1	1	1
Lingora aurata	1	1	×	1		1 1		×	x	1	×	X	1 2
Lingora vesca	1	1	1			1 1			1	1		1	1
Conoesucus fromus	1	1	1	1		i 1		1	1	1		1	1
Conoesucus norelus	1	1	1					1	1	1	X	×	1
Conoesucus digitiferus	1	1				1		×	1	1		1	
Conoesucus nepotulus	1	x	X	1					ж	×	mon		
Conoesucus brontensis Conoesucus sp.					x						HOR		
Helicopsychidae	1	1	1					.03	- 10		Me C		
Helicopsyche bartona		i		1					Bbu		ann,	GNE	-84
Helicopsyche murrumba				х				x	all.				
Calocidae	1	1	1					=	15.00	73		ger	23
Caloca tertia	1	1	1	1	1				1	1		1	
Caloca saneva	1	1	ŀ	1						1		1	
Caloca ascita	1	1		1						1			
Caenota plicata	1								ж				
Tamasia variegata		X	X								x	X	3
Helicophidae	1	1	1	1								1	
Helicopha astia	1	1	1	1								1	
Helicopha delamarei	1	1	1			1						1	
Helicopha sp.	1	X	1	1					, ,				
Alloecella grisea		Х	×		X			х				x	3
Alloecella longispina	1		×						ж	Х	611		
Alloecella pilosa		X						18	WITT.	x		CHE	
Kokiriidae	İ	1	1					1		1			1
Taskiria austera	1	1	1	1						5	x	х	
Taskiria mccubbini	1	1	1	1	1	l i				1		1	19
Taskiropsyche lacustris	1	1	1	1		1 1			1 2 2	1		1	1

TRICHOPTERA SPECIES	DI	STRI							ON A	TABL			
				ILES	FOR	THV	ESII	GAII	ON A	REA	4.		
SPECIES	1 5	1 6	1 7	1	1	1 0	2	2	2	2	2	2	1 2
hilorheithridae		1	1			1		1	1	1	1		1
ustrheithrus ronewa			1	1		ĺ		x	İ	1	1	1 100	1
ustrheithrus glymma		1	×	1	1	1 1	1	X	X	LIId		1000	101
ustrheithrus sp.		X	X	1	X	X	1			1000	X	100	101
osrheithrus remulus		1	1	×	X	1	1		1	THE REAL PROPERTY.	1	1	1
osrheithrus sp.		1	1	1	1	1	1	X	X	1		1	
amiheithrus kocinus			1	i	1	1	1		1	1	1	1	1
philorheithrus stepheni		1	1	1	1	×	1	×		I a by	1	x	×
philorheithrus pauxillus		1	1	1	1	X	1		1	1	x	X	X
philorheithrus decoratus		x	1		1	1	1	1	×	1000		1	1
philorheithrus luteolus		1	1		1	1	}	1	1	10.1	1	1 = 1	1
asmanthrus angustipennis			x	X	X	X	X	X	x	X	x	X	X
triplectididae		1										1 100	1
triplectides dubius		x	x	х	1	1		1	ao.	1 3 , 12		1 120	1 ×
alamoceratidae			1	1					LARC	HE B			
nisocentropus latifascia		1		İ	İ		İ	İ	İ				
eptoceridae				1	1		1	1					
estriplectes pedderensis		i	1	i	i	i	1 -	ì	1	1	1		1
riplectides ciuskus		x	x	×	1	×		1	1		X		1
riplectides magnus				1		1	1	1	1		X		1
riplectides similis		i	i		i	i	1		1	x	1 2	1	2
riplectides truncatus		i		i	x	i	1	ì	1	1		x	1 ^
riplectides bilobus		x	×			x	i	×	X	×		1 4	×
riplectides proximus		i	i				1	1	1				1 4
riplectides elongatus		i	ĺ	i			i	1				x	1
riplectides sp.		į į	i	i		i	i	i			x	1	×
otoperata sparsa		ĺ	i	i			i		i		**		1
otoperata maculata		i	i	i		ì	i	Ì	i	x		1	×
ymphitoneuria opposita	x	i	i			i	i		í		Last		1 43
riplectidina nigricornis		i	i			i	i		i		x	x	×
ectrides varians		x	i				i	i	1			1	X
otalina parkeri		i	i				i			DE L			1 2
otalina fulva		×	х		x	х	ĺ	x	X	x			×
otalina tillyardi		i					i						1
otalina bifaria		i	×			х	i		ĺ	x	х	1	×
otalina nigra		İ			i		i		i i			FIE	1
otalina sp.	x	1	х	х	i		×		x			110	
ondocerus paludosus								100		COR.		х	×
eptorussa darlingtoni			х	i	i					Lon		= [ E	
riaenodes intricata					i			х		Imn	BEI	х	TO
ecetis pechana									1.0	Maria		nIb	700
ecetis umbra				İ	i				1	Magi	28 '8	х	
ecetis gilva				i						dan	7 6	Mag	
ecetis australis				İ	İ						No.	TIN	
ecetis minasata	-			- 1	1	1			i				
ecetis laustra				İ	İ							х	х
ecetis asmanista			x	1	İ				11/12	In Li	100	х	
ecetis arcada		х	x	i	i	x		х	х	se!	bn i	х	х
ecetis inscripta	- 1			1	1		i		i		ABI		-
ecetis scirpicula		1	1	1	İ		j		i	60	ar Lui	-	
ecetis sp.	1	1	1	1	1	1	1	x					х

TRICHOPTERA SPEC	IES	DIS	TRIE							ATIO	_		E 5.			
ODECTES	0	1 01	2	3	3	3	13	3	13	1 3	1 31		4	4	1 41	-4
SPECIES	8	9	3	1 1	2	3	4	5	16	7	8		0	1	2	
Trichoptera  Aydrobiosidae  Apsilochorema obliquum  Apsilochorema gisbum  Allochorema tasmanicum  Austrochorema pegidion  Austrochorema evansi  Austrochorema crinitum  Austrochorema lepnevae		x	x x			x x		   X   X			X	T a p a p a p a p a p a p a p a p a p a		rbed hed hed hed hed hed hed hed hed hed h		A A A A A A A A A
Austrochorema complexa Ipsebiosis spicula Ulmerochorema breve Ulmerochorema seona Ulmerochorema lentum Ulmerochorema onychion Ulmerochorema tasmanicum		x		x	х											
Ulmerochorema rubiconum Ethochorema secutum Ethochorema nesydrion Ethochorema kelion		X	х	x     x     x							x					
Ethochorema sp. Taschorema asmanum Taschorema apobamum Taschorema ferulum Taschorema viridarium Taschorema pendunculatum	X	x	x x	x					    x	       x						
Taschorema evansi Ptychobiosis nigrita Koetonga clivicola Moruya charadra Moruya opora Moruya tasmanica		x	x x	x   x   x   x   x	х	X		X			X     X					
Glossosomatidae Agapetus tasmanicus Agapetus cralus Agapetus laparus		x   x   x		x				 								
Hydroptilidae Orphninotrichia acta Orphninotrichia maculata Hydroptila acinacis Hydroptila tasmanica Hydroptila scamandra Orthotrichia adornata Orthotrichia zonata		x   x									x					
Hellyethira exserta Hellyethira simplex Hellyethira multilobata Hellyethira basilobata Hellyethira malleoforma Oxyethira mienica Oxyethira columba		x	x								x					
Maydenoptila explicata  Maydenoptila cuneola  Maydenoptila rupina		×				1	1									

TRICHOPTERA SPEC	CIES	DIS	TRI	BUTI	ON	IN T	ASM	ANIA	N W	HA.	7	CABL	E 5.			
.8 ALSA MONTA	174	NA		S	ITE	s Fo	RI	NVES	TIG.	ATIO	N AI	REA	5.			
SPECIES	8	2	3	3	3	3	3	3 5	3	3	3		4		4	4
Philopotamidae  Hydrobiosella corinna  Hydrobiosella orba  Hydrobiosella cerula  Hydrobiosella anasina  Hydrobiosella tasmanica  Hydrobiosella armata  Hydrobiosella cognata  Hydrobiosella sagitta  Hydrobiosella waddama	x	X			x					             		8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		pab ag ag asb arb a a		
Stenopsychidae Stenopsychodes lineata  Hydropsychidae Cheumatopsyche modica Smicrophylax creektona Smicrophylax simplex Asmicridea edwardsi Asmicridea grisea Diplectrona castanea Diplectrona lyella Diplectrona bispinosa Diplectrona tasmanica			x		x						the team care that many cases have been care that the care	et eum				
Polycentropodidae Plectrocnemia altera Plectrocnemia lacuna Plectrocnemia manicata Plectrocnemia caudata Tasmanoplegas spilota Nyctiophylax repandus	         x		х	x   							X					
Ecnomidae Ecnomus tillyardi Ecnomus russellius Ecnomus continentalis Ecnomina irrorata Ecnomina legula Ecnomina vega Ecnomina batyle Ecnomina sp.		x	x x		х	x		x			x					x
<u>Limnephilidae</u> Archaeophylax ochreus Archaeophylax vernalis			х		ж											
Plectrotarsidae Plectrotarsus gravenhorst Plectrotarsus tasmanicus Liapota lavara Nanoplectrus truchaṇasi	1	X	ж		x		X									

TRICHOPTERA SPE	CIES	DIS	STRI	BUT	ION	IN T	CASM	IANI	AN W	IHA.	AS S	TABL	E 5			
CASE VIII	I PR	iyn	I-AQ	5	SITE	S FC	RI	NVE	STIG	ATIO	N A	REA	5.			
SPECIES	2 8	2		3		3	3	3	3	3	3		4		4	
Oeconesidae						1	1	1	1	1				TILLS S		
Tascuna ignota	X			X		1		1			1	701			001	PA
Tasimiidae	i					Ì		i	1	1		704			do	DW
Tasimia palpata	1	1						!		1		in The			199	
Tasimia denticulata							!	!		1						-179
Tasimia drepana Tasiagma ciliata	1					1		1								
Conoesucidae						! 	1	1								
Hampa patona	1						1	1	1	1	1 1		1 1		1	
Matasia satana	1	x		1 1			1	1	1	1	1 1		1 1			
Costora iena									1						99	
Costora delora	1						1									
Costora ebenina																
Costora ramosa Costora krene	1						1		1							
Costora krene Costora seposita	1	1 1		X		1	1			!					1	
Costora luxata				1 . 1		1	1	1		!						
Costora rotosca		1 1		x		1	1		1	1			1 1			
Costora sp.	x		х	1		1	1		1	x						
Lingora aurata	i	i		i			1	i	i	i				001		
Lingora vesca	i	i		i			i		i	i	i		i	007	DE	
Conoesucus fromus	1	1 1					1		1	1	1			nua j	1	
Conoesucus norelus	1			1 1			1	1	1	1				- 1	1	
Conoesucus digitiferus	1			x			1	1	X	×				1	1	X
Conoesucus nepotulus	1			X			1		1	!					!	
Conoesucus brontensis Conoesucus sp.				x						6		Test				
Helicopsychidae								1				los.	-		1	
Helicopsyche bartona	i			i			i	1	1	i				Lvd	OLI	
Helicopsyche murrumba					1		i			i			į		į	
Calocidae												II firms		Bh		
Caloca tertia									1		1	n Ti	1	1	1	
Caloca saneva Caloca ascita							1					TINE.				
Caloca sp.	l x				w 1		1		1			nie	1	1		
Caenota plicata	1	x		x			1	1		1	1		001			
Tamasia variegata						4								7 =		
Helicophidae							1	1			1			= =	1	
Helicopha astia	1						1	!			1	- 1	1	1	- 1	
Helicopha delamarei											1	1	1	1	1	
Alloecella grisea Alloecella longispina		35	3.5	X	M I							200	= =	!	00	x
Alloecella pilosa		x	х	x			1	X	x	x	1		ESI	I		x
Kokiriidae							1	1		330						
Taskiria austera	1	X		x			1	1	1	1	1		-	1	1	
Taskiria mccubbini					х			1			1	1	- 1	1	1	
Taskiropsyche lacustris					x		1	1			1		1	1	1	

TRICHOPTERA SPEC	IES	DIS	TRIE	BUTI	ON I	N T	ASMA	ANIA	N WI	HA.	T	ABL	E 5.			
A AMA MOZICA				S	ITES	FO	RII	NVES	TIG	ATION	I AR	EA	5.			
SPECIES	2   8	2	3 0	3	3 2	3	3	3	3	3	3	3	4	4	4	4
		<u></u>					İ		<u> </u>						1	
Philorheithridae Austrheithrus ronewa Austrheithrus glymma Kosrheithrus remulus Ramiheithrus kocinus	2									2000 D	da da					
Aphilorheithrus stepheni   Aphilorheithrus pauxillus						1		×		non	2.0					
Aphilorheithrus decoratus			х	x	х		i		i						i i	
Aphilorheithrus luteolus									i	1	i		i		i	
Aphilorheithrus sp.		i	x	i		İ	1	1	1	1			1 1		1	
Tasmanthrus angustipennis		i i		1 1		1	1		1							
Atriplectididae		1 1														
Atriplectides dubius			x	x	х	×	1	x	i		х	х	i i		i i	х
Calamoceratidae Anisocentropus latifascia							1			nel i						
Anisocentropus latitascia						1	1						1			
Leptoceridae		i		i i		i	1	i	i				==			
Westriplectes pedderensis				x	X	1	1	1	1	1			1 1			
Triplectides ciuskus				1 1				1	1	1			1			
Triplectides magnus					X		1				X					
Triplectides similis			X				!		!							
Triplectides truncatus			X							1						
Triplectides bilobus			X	X				1		X	X		1 1		1 1	
Triplectides proximus Triplectides elongatus		1 1						1	1	1			1 1		1 1	
Notoperata sparsa	1	x	х	l x	x	x		1	1	1	x	x	1 1		1 1	
Notoperata maculata	l I	x		X		1	1		1		1	41				
Symphitoneuria opposita	l 	1 1	Λ	1 2	1		1		1							
Triplectidina nigricornis		x	х	ii			1	i	1				1 1		1	
Lectrides varians	1	x		ii			i	i	1	i	x		i		i	
Notalina parkeri	İ			i i		ж	i	i	1	i	x	х	x		i	
Notalina fulva	ĺ	İ	x	x		X	1	x	1	1	x		1 1		1 1	
Notalina tillyardi		1 1					1	1	1	1			1 1		1 1	
Notalina bifaria	1	x	X				1	1			1		1 1		1 1	
Notalina nigra	1	1 1				1	1	1	1				1 1			
Notalina sp.				X				!								
Condocerus paludosus		X		X	Х		1									
Leptorussa darlingtoni		!!!	x	1 1					1				1 1			
Triaenodes intricata	1		X			1	1	-	1		x				1 1	
Oecetis pechana	1		X	1 1		1	1	1	1							
Oecetis umbra Oecetis gilva	1					1	1	1	1				1 1		1 1	
Oecetis gilva Oecetis australis		x	х	x		x	1				x				196	
Oecetis minasata	1	1				1	i	i		i			1 1		1	
Oecetis laustra			ж	x		i	1	i	i	i	x		i i		i	Ж
Oecetis asmanista	1					İ	1	1	1	1			i		1	
Oecetis arcada	Ì	x	х	x	х		1		1	1	x		1 1		1 1	18
Oecetis inscripta		1 1				1	1	1	1	1			1 1		1 1	
Oecetis scirpicula		1		1			1	1	1	1	x		1		1 1	-
Oecetis sp.		1	х	1 1		1			1	1			1		1 1	1
						1		1	1	1						

TRICHOPTERA SPECIES	s DIS	TRIBU						N ARE	BLE 6	14	
			SIT	ES FO	K INV	ESTI(					
SPECIES	4	5	6	7	8	9	5 0	5 1	5 2	5 3	5
Trichoptera					1		1	1	spla	To ke	101
Hydrobiosidae						1	l x		×	1 4 4 4	x
Apsilochorema obliquum	X	X	X	!		X	X	DESIGNATION OF THE PARTY OF THE	1		1
Apsilochorema gisbum	1 **	1 1 1		1	1	1	1		×		1
Allochorema tasmanicum	X	1	1		1	1			1	1	1011
Austrochorema pegidion Austrochorema evansi		1				i		1		Led	
Austrochorema crinitum				1				so se û	sumit	х	DIL
Austrochorema lepnevae	1				i	i		İ	au ad	lad	loll
Austrochorema complexa	ì	i			i	i	i		aund:	Lad	1011
Austrochorema sp.	i	i	i	ĺ	i	i	la Leto	latie!	X	ind)	nee
Ipsebiosis spicula	x	İ	1		1	1	1	1	×		
Ulmerochorema breve	1	×	×	1	1				×	X	I THE
Ulmerochorema seona	x	x	X	25 1	1			THE CO	10 00	LITO	Х
Ulmerochorema lentum											
Ulmerochorema onychion			1			1			9801		
Ulmerochorema tasmanicum	X			1		!				13314	1
Ulmerochorema rubiconum	1	1	X			1		1			-
Ethochorema secutum Ethochorema nesydrion	×		x								x
Ethochorema kelion			1		1	1			x		
Taschorema asmanum	×		x		i	x	i	x			х
Taschorema apobamum	x		х	i	i	i				DIE	×
Taschorema ferulum	1	Ì	1	i	i	i	1	l secal		513	elg
Taschorema viridarium	×	1	×	1 =	1	1	1	a ma	I I B	617	X
Taschorema pendunculatum	i	1	1	1	X	X		0.13.74	Х	X	nin
Taschorema evansi	X	X							LB E	BIS	X
Taschorema sp.	1		1 8		A IX				Х		1990
Ptychobiosis nigrita	X		N.		X	1		X	×	X	x
Koetonga clivicola  Moruya charadra	X	1	l x		l x		5.7	E CHES	×	x	1
Moruya opora	x	1	X	1	1	1				1	x
Moruya tasmanica		192				İ			-	9 8	l l le
  Glossosomatidae	18				1	1			SVII	7 6	LLE
Agapetus tasmanicus	1	1	1	1	1	1	1	1		1 4	X
Agapetus cralus	1	1	1	1	1	1	1	1		La s	L.Da
Agapetus laparus	1		x	8						B 5	
					1	1			III. BU		
<u>Hydroptilidae</u>  Orphninotrichia acta				1	1	1				1100	
Orphninotrichia maculata		1		1	i	i					
Hydroptila acinacis	ì	i			1	i		i			139
Hydroptila tasmanica	i	i	i	i	i	i	i		EU	10	130
Hydroptila scamandra	İ	İ	1	1	1	1	1	l le			Lis
Orthotrichia adornata	1	1		1	1	1	1	1	0 588		1 36
Orthotrichia zonata	1	1	1	13	1	1	1	1	HEST E		Line
Hellyethira exserta					1			1 6	a trus		138
Hellyethira simplex	X		1 18	H	1 12				12DK	THE S	139
Hellyethira multilobata	1		1		1					nr.	1 1 3 5
Hellyethira basilobata  Hellyethira malleoforma		1	1	1	1						
Oxyethira maileoforma		1		1	1	1	1				
Oxyethira columba		1	x	1	i	1	1	l x		1	×
Maydenoptila explicata	1	1	i	i	i	i	i		i	i	
Maydenoptila cuneola	i	×	х	1	i	i	1	1	1	1	х
Maydenoptila rupina	1	1	1	1	1	1	1	1	1	1	1

TRICHOPTERA SPECIES	DIS	STRIB					WHA.		BLE 6	•	
			511.	ES FU	K INV	ESTI	GATIO	N ARE	A 6.		
SPECIES	4	5	6	1 7	4	4	5 0	5	5 2	5 3	5
Philopotamidae						1		1			1
Hydrobiosella corinna		1	1		j	1	İ	1	Litons	1	
Hydrobiosella orba				1			1	1	1	1	1
Hydrobiosella cerula						1					
Hydrobiosella anasina					!	1				!	
Hydrobiosella tasmanica	×		X	X		!			×		
Hydrobiosella armata						1				!	
Hydrobiosella cognata			1		1	1					
Hydrobiosella sagitta			1	1	!	1				1	
Hydrobiosella waddama Hydrobiosella sp.		×	1	1			!				1
nydrobiosella sp.		1	1			1	!	×		1	
Stenopsychidae		1	1	1			1		1	1	
Stenopsychodes lineata		!	1	1	1	1	1				
o tempoyemodes Timeata				1	1	1	1				
Hydropsychidae		1				1	1				1
Cheumatopsyche modica			t l	1	1						1
Smicrophylax creektona	x		x	x	×	x	x		1		
Smicrophylax simplex	Λ.	1	1	1	1	1	1				
Asmicridea edwardsi	x		x	1		i					×
Asmicridea grisea	2.		1			i	1			1	
Diplectrona castanea				1		1	ì				
Diplectrona lyella		ì	i	i		i	i	i	Balens		
Diplectrona bispinosa		i	i	i	i	ĺ	i				-
Diplectrona tasmanica		İ	j	j	İ	İ	i		Note: 1	-	
Cural or Street Make Mark A.											
Polycentropodidae		1		1	1	1	1	Lore	1	1	
Plectrocnemia altera	X	1	1	1	1	1	x	x			100
Plectrocnemia lacuna		1	1	1	1	1			1	1	
Plectrocnemia manicata		×	1	1		1	1		I STATE OF THE PARTY OF THE PAR	1	1
Plectrocnemia caudata	X		x			X	Х			1 1 1 1	1
Plectrocnemia sp.		1	1	1	1	1			1		×
Tasmanoplegas spilota	X	1	i	1	1	1	1		I	1	1
Tasmanoplegas sp.			1				1	X			
Nyctiophylax repandus			1								
Foremides			1		1	1	1		1		
Ecnomidae Ecnomus tillyardi		l x	1		1		1				
Ecnomus russellius		1 ^					1			F EI	
Ecnomus continentalis	l lis		1			1				1	1
Ecnomina irrorata	x	x	x	x		1	1			Louis	x
Ecnomina legula	X			x		i	ĺ		188	dec	X
Ecnomina vega		i	1			ì	i	9780	s l=b	adge	1
Ecnomina batyle		1	1			i	i	BBE	219 5		POL.
Ecnomina sp.		15		1	1		ж	Str FE	1 4 - 1		1
same dra departed the		1		1	1 8	1	1	1110	p. lq e		
Limnephilidae		1		1	1	1		1	1	1	
Archaeophylax ochreus		x		l	1	x	1		I	1	1
Archaeophylax vernalis			×	1	1	!			!	====	1
				1			2144				
Plectrotarsidae				1		1	1		1		1
Plectrotarsus gravenhorsti		1		1	1	1	1		1		
Plectrotarsus tasmanicus	X	1	1 2	1	l x	1	1	v	1		1
Liapota lavara	X		X		1			X			
Nanoplectrus truchanasi	x			1					1		

TRICHOPTERA SPECIE	S DIS	TRIB							BLE 6	•	
			SIT	ES FO	R INV	ESTI	GATIO	N ARE	A 6.		
SPECIES	4	4	4	4	4	4	5	5	5	5	
	4	5	1 6	7	8	9	1 0	1	2	3	1 '
Deconesidae	1	1	i	İ	1	1	1	1	les 51	1 10	1
Cascuna ignota			X	1		1	104			do to	
lasimiidae				ì	i	i		1	1	1	1
Tasimia palpata	i	i	İ	ĺ	1	1	1	1 000	1	1	1
Tasimia denticulata	1	İ		1	1	1	1 33 LY		1 all	1	1
Tasimia drepana	1	1		1	1	1	1	1	1 511	looks	
Tasiagma ciliata	1			1		!	1 58			bole	bul
Conoesucidae	1	1	1		1	1	53		1	1	1
Hampa patona	ì	1	i	1	i	i		İ	i	i	i
Matasia satana		i	i	i	i	i		1	i	i	i
Costora iena	İ	1	1	i	i	i	I	İ	j	byles	i
Costora delora	İ	1		1	1	i	I BEE		1	1	1
Costora ebenina	1	1	1	1	i	1	1	1	1	1	1
Costora ramosa	1	1	1	1	1	1	1	1		tone	1
Costora krene	1	1	1	1	x	1	80	1	la day	1000	1
Costora seposita				1		1	1 0.35	1	1 225	le sign	1
Costora luxata	į	1	X	1	x	×	1	Light	B 705.	lyrige	
Costora rotosca		1	1	1	×	1	1	E BE	1	1 515	
Costora sp.				X	X	1	1			Dis	
Lingora aurata			!			1		DE LA SE	109 B4	1233	
Lingora vesca Conoesucus fromus		!		1			!			10.835	
Conoesucus romus	l	1		1				on a	I S BY	1 1	
Conoesucus digitiferus		1	X	1	l x		×				
Conoesucus nepotulus	1	1	x	1	x	1	1 1		l x	x	
Conoesucus brontensis		İ		i		i		2016	1	1	
Helicopsychidae								1004	10000	1000	
Helicopsyche bartona	i	1	i	i		1			1		
Helicopsyche murrumba	i	İ		1	i	İ				1300	
Calocidae								Ligi		Lgos	JEE
Caloca tertia	i			i	i		x		1		D III S
Caloca saneva	i	i	i	i	x	i			1	1	
Caloca ascita	i		i	i	i	i	i	Ì	1		
Caenota plicata		1	1	1	İ	İ	ĺ	x	1	1	x
Tamasia variegata	1	1						х		-	190
Helicophidae									1 1 1 1 1	13.0	TON
Helicopha astia	1	1	1	1	1	1		-	1	1	
Helicopha delamarei	1	1	1	1	1	1		1	1	1	
Alloecella grisea	l	1		1		1		x	Lygn	1	bon
Alloecella longispina	X	x	x		×	X		ж	×	x	×
Alloecella pilosa	X							х			
Kokiriidae	i	i	i	i		i		- Marie		i	
Taskiria austera	x	1	1	I.		1	x	x	l mare	1	
Taskiria mccubbini	1	1	1		1	1			1	1	
Taskiropsyche lacustris											

	1	1.04	SIT	ES FO	RINV	ESTI	GATIO	N ARE	A 6.		
SPECIES	4	1 4	4	4	1 4	1 4	1 5				
1 0 5 8	4	5	6	7	8	9	5	5	5	5 3	5
Philorheithridae	1	1	1	1	<u> </u>	1			1		187
Austrheithrus ronewa Austrheithrus glymma			1	1	1		and the	pride	9501		1
Kosrheithrus remulus		i	j	i	1 20	i	i	date	1091	1	Lat
Ramiheithrus kocinus	1	1	1		1	1	1 1927 6			PERM	in
Aphilorheithrus stepheni	x	1	1	1	1		ne!			1	x
Aphilorheithrus pauxillus	ļ.	1	1	1	1	1	1	1	4-11	1	1
Aphilorheithrus decoratus			X	x	X	1	1			1	X
Aphilorheithrus luteolus	!	X	!							1	1
Aphilorheithrus sp.		!						X		1	1
Tasmanthrus angustipennis	X	X	X				Х		Y		X
Atriplectididae			1	1	1	1	1		CRET		1
Atriplectides dubius	х	х	x	x			-	x			
Calamoceratidae					1					1	İ
Anisocentropus latifascia			1	1							1
						1					
Leptoceridae	i	i	i	i							
Westriplectes pedderensis		1	1	1	1	1		i i		i	i
Triplectides ciuskus	x	1	1	x	1	1	1	1		1	İ
Triplectides magnus	1	I	1	1	1	1		1 1		1	1
Triplectides similis	1	1	1	1		1	1			1	1
Triplectides truncatus								1 1		1	1
Triplectides bilobus	X	!	X	Х		x	ж	x			X
Triplectides proximus	!	!	!	!							6371
Triplectides elongatus Triplectides sp.	!	1							twills	100	
Notoperata sparsa	l x		l x		X						14.00
Notoperata maculata	l x	!	1 1		x	x	×	x	635	Х	х
Symphitoneuria opposita	1		1		1	1		A	e di sano		170
Triplectidina nigricornis	i	i	i								1
Lectrides varians	i	i		x						988	Be L
Notalina parkeri	i	i	i		111	i				8113	
Notalina fulva	i		х			×		x	100	GIV.	
Notalina tillyardi	1		ĺ			1		HS D		901	
Notalina bifaria	×		x		х	1	-	i			x
Notalina nigra	1		1			1					
Notalina sp.	1			x		1		1			
Condocerus paludosus	x					1		1	- 1		
Leptorussa darlingtoni								1	- 1		
Triaenodes intricata											- 7-0
Decetis pechana								.0000			
Decetis umbra		7					1 1	11000		11-	
Decetis gilva			42	92				19711	9 63	hin	114
Decetis australis Decetis minasata			x	x				19155		1134	TIE
Decetis minasata Decetis laustra			x				Mind.	MITT	MG 83	1174	X
Decetis laustra			Α .				EJO	BLIE	0 57	ATT	
Decetis asmanista	x	x	x	x	x	x	<b>F</b> 3154	x	E 81	A3 a	45
Decetis inscripta						1		A	min !		Х
Decetis scirpicula									A ITEM	THE.	
Decetis sp.							- 611	х		200	

SPECIES	SITES FOR INVESTIGATION AREA 7.							
	5	1 5	1 5	5   5   6			1 6	
	5	6	7	8	9	0	1	
Trichoptera		1			1 00	Liverio	lac.	
Hydrobiosidae			1	1	1	BUSHEL	la de se	
Apsilochorema obliquum		x		×	×	morals I	1	
Apsilochorema gisbum	×	1	x		X	- condi	1	
Allochorema tasmanicum		i i	i	i		la marida	x	
Austrochorema pegidion	×	i	i	1 60	1 10430 6	- deren	holin	
Austrochorema evansi	İ	i	i	I esul	Luxen e		1	
Austrochorema crinitum			i	1	Landania de		least to	
Austrochorema lepnevae		i	i -	i		could be a		
Austrochorema complexa		i	i	i			1	
Ipsebiosis spicula		i .	i				i	
Ulmerochorema breve	x		i				i	
Ulmerochorema seona		i	i	i	х		х	
Jlmerochorema lentum		i	i	1		20111111	i	
Ulmerochorema onychion		-	1	1	- Harris Garden			
Ulmerochorema tasmanicum	x	1	i	1 - 1 - 3	x			
Ulmerochorema rubiconum	7-		1		x	IN LIE YES	1	
Ethochorema secutum			1	1 500		Head to		
Ethochorema nesydrion	x	×	i	i	x			
Ethochorema kelion	1	1	×				30019	
Taschorema asmanum			1	1 10 2.0	Tall Burg Box		17370	
Taschorema apobamum	x		X	1	x		pardi	
Taschorema ferulum	1 22		1		x		STAT	
Taschorema viridarium				i	x		384 9 5	
Taschorema pendunculatum	i		1				aalgt	
Taschorema evansi		X . 2			BUGOLL	eenst	perdi	
Ptychobiosis nigrita				i	x	rebit	381 01	
Koetonga clivicola		×	i		and once	a ABOLT	serdi	
Moruya charadra	1 12 1	×	×	i	x		x	
Moruya opora	x			i	x	ige syn	10001	
Moruya tasmanica		i		1	STRIC			
				i	1 10 10 1	L TEMPLO		
Glossosomatidae					19-149/11	BHIDES		
Agapetus tasmanicus	×		i	x	x	Tey Ba		
Agapetus cralus		i	1	i	7 13		x	
Agapetus laparus			1	i	i i	PULLIFIE S	144.00	
3 1	i	i	i	i	1 40 11			
Hydroptilidae		İ	1	İ	i	EV-TO E		
Orphninotrichia acta				1	1 i			
Orphninotrichia maculata		1	1	i	i i	9		
Hydroptila acinacis	1		1	ĺ	1			
Hydroptila tasmanica		1	1					
Hydroptila scamandra	1	1	1	1		au anti		
Orthotrichia adornata	1	1		İ	i i	TE COME		
Orthotrichia zonata	×	1	1	1	x	e namu		
Hellyethira exserta					x			
Hellyethira simplex	1	1	1	i	1	HENELD		
Hellyethira multilobata			1	Ì	1			
Hellyethira basilobata	1	1	1	1		J. C. L.		
Hellyethira malleoforma	Í			İ	i marei			
Oxyethira mienica		1		i	i	- SE COM		
Oxyethira columba		İ	İ	i	x	THE PERSON NAMED IN		
Maydenoptila explicata			1	i	I FAME	-GILLDE		
Maydenoptila cuneola			i	i	i	408		
Maydenoptila rupina		i		1	1			

1		STRIBUTION IN TASMANIAN WHA. TABLE 7.  SITES FOR INVESTIGATION AREA 7.						
SPECIES		SITE	S FOR I	NVESTIG.	ATION AF	REA 7.		
	5 5	5   6	5 7	5   8	5	6   0	6   1	
Philomotomidae		1		i	İ	1		
Philopotamidae Hydrobiosella corinna		1 1			1	Harry .		
Hydrobiosella orba		! !		1	1			
Hydrobiosella cerula		!!!!			!			
Hydrobiosella anasina		1		!	!			
Hydrobiosella tasmanica				1	1		!	
Hydrobiosella armata		x		X		- The state of	X	
Hydrobiosella cognata					!			
Hydrobiosella sagitta		1						
Hydrobiosella waddama		!!!!			!			
mydrobiosella waddama	x				X	11040		
Stenopsychidae		1		!				
Stenopsychodes lineata				1	1			
						PRO Leo	1000	
Hydropsychidae		i		i		and Landin		
Cheumatopsyche modica		1			i	RADIMET	101	
Smicrophylax creektona		i		İ	x	Parma s	x	
Smicrophylax simplex		i				17 Iroquan	2071	
Asmicridea edwardsi	x	i i		i	×	×	12011	
Asmicridea grisea		i		İ	1	POTOLOGI	1000	
Diplectrona castanea		i		i	1	11 7 11 T A 11 11 11 11 11 11 11 11 11 11 11 11 1	1000	
Diplectrona lyella		i		1		BRES	× 3000	
Diplectrona bispinosa		i		1			-	
Diplectrona tasmanica					10.0	STOR BOX	paring	
in the last that there is a		i i		i	ennely to	palb surp	387	
Polycentropodidae		1		1	021113	1000		
Plectrocnemia altera		1		1	x			
Plectrocnemia lacuna		1						
Plectrocnemia manicata	x	1			x	x		
Plectrocnemia caudata		1		1	x	In supplied		
Tasmanoplegas spilota		1			FUGUTE	In Milary		
Nyctiophylax repandus	X	1 1		1	х	x		
Total Isla Cultur								
Ecnomidae								
Ecnomus tillyardi	x	!!!			x	x		
Ecnomus russellius								
Ecnomus continentalis		1						
Ecnomina irrorata	X				X	x		
Ecnomina legula		1				x		
Ecnomina vega		1 1						
Ecnomina batyle								
[immonbilidae								
Limnephilidae	v			1	х			
Archaeophylax ochreus	X				Α.	X		
Archaeophylax vernalis		1						
Plectrotarsidae					24			
Plectrotarsus gravenhorsti		i				1		
Plectrotarsus tasmanicus		i i			111	i i i		
Liapota lavara		i i			HEEDER			
Nanoplectrus truchanasi								

TRICHOPTERA SPECIES DISTRIBUTION IN TASMANIAN WHA. TABLE 7.								
.t AR9A Muraad	TOWN DOOR	SITES FOR INVESTIGATION AREA 7.						
SPECIES	5 1	5	5	5	5	6	1 6	
	5	6	7	8	9	1 0	1 1	
Deconesidae				1	1	aghirs	lean L	
Tascuna ignota	į į	į		į	nonthun	l niina	Ldon	
Tasimiidae		1			1 ad1	ALLega	11007	
Tasimia palpata		1		1		1	1	
Tasimia denticulata		1		i				
Tasimia drepana				1	x	1	1	
Tasiagma ciliata					1	1 - 1 - 1	14-	
	i i	i		i	I REPLECE	I sties		
Conoesucidae	1	1		1		BILERO	Leon	
Hampa patona	x	1			x	1		
Matasia satana		- 1			1	tech into	x	
Costora iena	1	1			Lineati	Lebodes	1900	
Costora delora	1	1		1	1	1		
Costora ebenina	1	1		1	1	Insblnoy	ayor	
Costora ramosa	1	1			1 85 11 20	1-11-11-11-11	Spap	
Costora krene	1				1 11 15 15 15 15	to go Lyd	070	
Costora seposita		1			to Lon	1		
Costora luxata	1	1		1	Lope	labe sell		
Costora rotosca	X	1		1	X	X		
Lingora aurata	1	1				E MAPS		
Lingora vesca								
Conoesucus fromus		- 1			Eliton III	1 1 1 1 1 1		
Conoesucus norelus					X	TO ACON		
Conoesucus digitiferus				1	!	1		
Conoesucus nepotulus Conoesucus brontensis						I men		
concesucus prontensis				1				
Helicopsychidae								
Helicopsyche bartona								
Helicopsyche murrumba						x		
The state of the s	i					A		
Calocidae	1				1			
Caloca tertia	1				1	i i		
Caloca saneva	i i			i	1.00	Laurens		
Caloca ascita	1 1			1		1		
Caenota plicata	1 1				×	1		
Tamasia variegata				!	1 65	100011		
Helicophidae						Lugal		
Helicopha astia				1	1			
Helicopha delamarei		1			1			
Alloecella grisea					1		x	
Alloecella longispina	x			x	×		X	
Alloecella pilosa				1	1	San Vill		
	1					1 1		
Kokiriidae					1	Dinam!		
Taskiria austera				11295	OTHUVET	200203		
Taskiria mccubbini				l al	CARDWES.	200,00		
Taskiropsyche lacustris						Last mires C		

SPECIES	SITES FOR INVESTIGATION AREA 7.								
	5 5	5   6	5	5   8	5 9	6   0	6   1		
Philorheithridae				1	1	<u> </u>	<u> </u>		
Austrheithrus ronewa			1	!		1	1		
	1	1	l	1		×	1		
Austrheithrus glymma		1	1	1	1		1		
Kosrheithrus remulus	1	1		1	1	ı	1		
Ramiheithrus kocinus		1	1	İ	i	i	i		
Aphilorheithrus stepheni	x	i	i	i	×	i	í		
Aphilorheithrus pauxillus		i	i	1	1		1		
Aphilorheithrus decoratus	I I	1	1	1	1	i i	1		
Aphilorheithrus luteolus	t I	!	1	ł T	1		1		
Tasmanthrus angustipennis		1	1	1	1	1	!		
rasmanthrus angustipennis	Х			!	x	×	!		
		1	1	1		1			
Atriplectididae					1	1	1		
Atriplectides dubius	×	1	10-10-1	1	l x	x	1		
		1	1	1	i	i	ì		
Calamoceratidae	i	i	í	i	Í	i	i		
Anisocentropus latifascia	i	1	i	1	1		1		
			1		1		1		
Lontocomida					1	1			
Leptoceridae		1				1	1		
Westriplectes pedderensis		1		1	1	1			
Triplectides ciuskus		1	1	1			1		
Triplectides magnus		1	1	I	i	1	i		
Triplectides similis			i	i	×	i			
Triplectides truncatus			1	1	1		1		
Triplectides bilobus	x				1		1		
	X			1	x	Х	1		
Triplectides proximus		1	1						
Triplectides elongatus			1				1		
Notoperata sparsa					x	and the same			
Notoperata maculata					X		1		
Symphitoneuria opposita		1	1						
Triplectidina nigricornis	х	1		İ	x		i		
Lectrides varians		i	i	i	x	1			
Notalina parkeri									
Notalina fulva				1		x	1		
Notalina tillyardi		1	1	1		^			
							1		
Notalina bifaria				1			1		
Notalina nigra				1	1	l			
Condocerus paludosus			1	1	x		1		
Leptorussa darlingtoni		1		1	1		1		
Triaenodes intricata			1	1	x		1		
Oecetis pechana		1	1	i	i i		i		
Oecetis umbra		1		i	i		i		
Oecetis gilva			i	i					
Oecetis gilva				i	1				
Oecetis australis		1 32	-	1					
	14	X		1	1				
Oecetis laustra	100	12/11/19					1		
Oecetis asmanista	X			1	X		and the second		
Oecetis arcada		×			x	x			
Occatic incomints									
Oecetis inscripta		1			1	1 2 2			